A
Practical Treatiſe
ON
PLANTING;
AND
The Management of
Woods and Coppices.

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K
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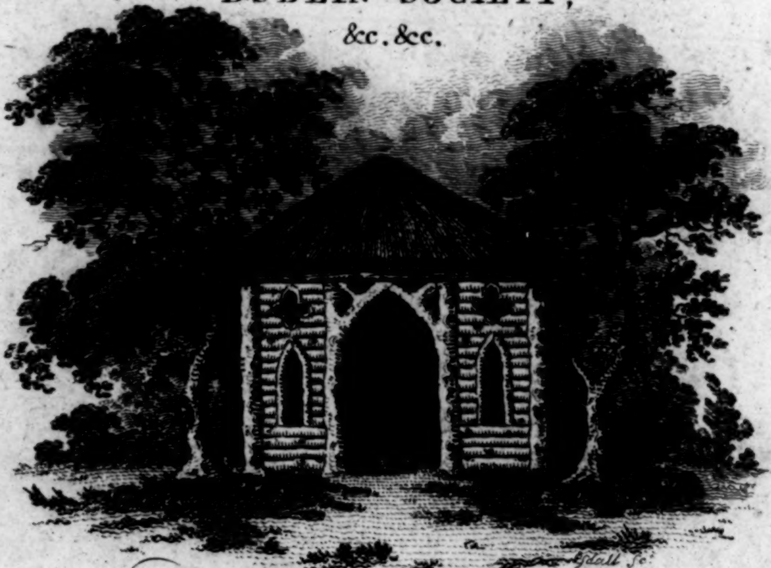

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THE FOLLOWING

PRACTICAL ESSAY

ON

PLANTING,

AND THE MANAGEMENT OF

WOODS AND COPPICES,

IS DEDICATED WITH GREAT REGARD,

TO THE RIGHT HONORABLE AND HONORABLE

The Dublin Society

FOR THE IMPROVEMENT OF

HUSBANDRY,

AND OTHER

USEFUL ARTS.

By their moſt obedient
And faithful Aſſociate,
S. H.

Avondale, May 1794.

PREFACE.

WHEN in conſequence of the wiſhes of ſeveral reſpectable Members of the *Dublin Society*, expreſſed in terms too flattering, not to enſure an immediate compliance, I undertook to give to the public a Short Practical Treatiſe on *Planting, and the Management of Woods*, it occurred to me at the moment, that I could not better fulfil the firſt part of my engagement, than by making a ſelection of ſuch paſſages in the moſt approved writers on the ſubject as appeared beſt calculated for the ſoil and climate of this country; ſtudying at the ſame time, to reconcile as much as lay in my power, that diverſity of opinion, which on many occaſions ſeems more likely to *diſtract* than *aſſiſt* the inexperienced Planter.

They have all propoſed for their object the moſt ſpeedy and effectual method of *raiſing timber;* but differ ſo widely in the *means*, that *Miller* and Sir *James Juſtice* adviſe the ſowing of tree ſeeds on the ground where the trees are intended to remain; *Kenedy*, *Forteſcue*, and ſome others, recommend planting out at once from the *ſeed-bed;* whilſt *Boutcher* on the other hand, contends for frequent *tranſplantation*, even where trees have arrived to the height of twenty feet; and aſſerts, that in certain inſtances, none, but ſuch as have been thus managed, can be expected to ſucceed.

The following Eſſay, it is hoped, may, in a great meaſure reconcile theſe ſeeming contradictions, and point out, where the precepts of each author may be followed to moſt advantage, by adapting them to thoſe circumſtances of ſoil and ſituation, for which they appear to have been originally deſigned.

In the execution of this part of the work, where I have fully approved of the directions of the author, I have generally given them in his own words; what may be wanting in point of ſtile, is often made up by ſimplicity and a ſort of technical language, beſt calculated in general, to convey information to thoſe, for whoſe uſe it is principally intended.——Where I have ventured to differ in ſome articles relative to *planting*, from authors of eſtabliſhed reputation, and through the *whole* of that part, which treats of the *management of woods and coppices*, I have written either from my own experience, founded on conſiderable practice, or from the communication of particular friends, amongſt whom, I may with truth aſſert, that I can number thoſe, who are not only as ſkilful Arboriſts and extenſive Planters as any in the kingdom; but at the ſame time, are amongſt the beſt informed in general, in every art and ſcience, which can improve their country, or ameliorate the ſtate of its inhabitants.

To theſe two principal diviſions of my ſubject, I have added a *third;* containing ſuch inſtances as I have been enabled in the time to procure, of the magnitude and value to which certain trees have arrived in this kingdom, and of the rapid progreſs which others have made towards repaying the expence and attention of the Planter; the *one* being deſigned to inculcate the advantages reſulting from the proper management and *preſervation of our woods*, and the *other*, as the beſt inducement to the *extenſion of our plantations.*

If I have carried this enquiry to rather a greater length than was at firſt intended, I flatter myſelf, it will be found to contain ſome intereſting circumſtances, which may induce thoſe to peruſe a work, which they would not have once thought of looking into, had I confined myſelf to the *didactic* part alone; and if thus I ſhall add but an individual to the cauſe of *planting*, or *preſerving* of timber, I ſhall conſider neither my own time nor that of my reader as unprofitably employed.

How far this attempt may conduce to carry into effect, the purpoſes for which it was undertaken, a future day can alone determine; in the mean time, I have the ſatisfaction of thinking, that in giving it, ſuch as it is, to the public, I avoid the imputation of being an idle Member of a SOCIETY of GENTLEMEN diſtinguiſhed for many years, by their patriotic and diſintereſted exertions in the advancement of the Arts, Manufactures, and the Agriculture of their country.

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PRACTICAL TREATISE
On PLANTING, *&c.*

I SHALL follow the ingenious and experienced author of *Hints on Planting*, in prefacing all I mean to ſay on the ſubject, by calling the attention of the Planter in the firſt inſtance to the ſecurity of his encloſure. In vain he plants, if cattle can get amongſt his young trees; they totally deſtroy ſuch as are within their reach, and materially injure thoſe of a more advanced growth.

Where we have ſecurity alone in view, and a lime and ſtone wall would not preſent a diſagreeable object, it is certainly the beſt fence poſſible; a dry ſtone-wall, with the upper courſe laid in mortar, and covered with two rows of turf or ſods, the graſs ſide of one turned under, the other upwards, makes a good fence; but as I have found by experience that ſhelter is in moſt ſituations more eſſential to young plantations than any other circumſtance, I recommend a ſtone-faced ditch; the ſtones to be laid in mortar, or well bedded with ſods to prevent the effect of the air on the roots of the quicks, which ſhould be three year old white-thorn, or crab-tree, laid over the firſt row of ſtones. The trench to be ſunk about five feet, and made ſix or ſeven feet wide. If the ground be inclinable to moiſture, ſallow cuttings may be planted, as top-ſets, croſſing each other, ſo as to form a ſort of net-work; theſe will ſoon make an impenetrable fence, and afford great ſhelter.—Hornbeam is uſed for this purpoſe in Germany; the branches having a little of the bark taken off where they croſs each other, and being tied in the form deſired, ſoon grow together, into a continued palliſade—in grounds too poor to ſupport the above, cuttings of elder may be planted in the ſame manner, and common broom, or French furz-ſeed, may be ſown in a little drill at the back, which will afford uſeful ſhelter in a very ſhort time—when quicks are planted in the face of the ditch, it is an excellent method to inſert young holly plants at about four feet diſtance in May or June following; I ſhould alſo wiſh to recommend a more frequent uſe of the crab than is generally practiced; by no means for the purpoſe of grafting, or ſuffering them to bear fruit, as that would, in this ſituation have a direct tendency to defeat the purpoſe of planting them: but as a ſtrong growing, vigorous plant in many ſoils, where the white thorn grows but poorly, and eſpecially in a wet ſtrong clay, or in a moor over white gravel, both of which ſoils ſeem ill-adapted to the growth of the white thorn; which ever plant is found to anſwer it, will be improved by clipping the breaſt and tapering up the hedge, but ſuffering the top to grow for a conſiderable time without ſhortening. Lord Kaims (who ſeems to leave nothing uninveſtigated, from the formation of man to the growth of a crab) in his Gentleman's Farmer, inveighs ſtrongly againſt the practice of clipping the tops of young hedges, and aſſerts, with reaſon, founded, I can aver, on experience, that trees ſo uſed, never acquire equal ſtrength of ſtem and vigorous growth with thoſe ſuffered to run for a conſiderable time without ſtopping; as may be ſeen in thoſe hedges where ſome thorns have been preſerved as *ſtandards*, he therefore adviſes our leaving the hedge at full liberty at top, until the ſtems are about two inches thick, and then to cut them at the height of three or four feet, keeping it afterwards in a taper form, which admits the acceſs of ſun and rain to every part.—Anderſon in his Treatiſe on Agriculture, agrees with Lord Kaims; but inſtead of only clipping the firſt ſhoots, recommends ſhortening all the ſide ones ſtill as they put out, by which ſtrong ſpurs are formed, which ſoon meeting and croſſing each other, make a moſt impenetrable and laſting fence: but this practice would be difficult to adopt in a great extent of hedging.—The Engliſh method of plaſhing, undoubtedly ſhortens the duration of the fence: where we can wait for the natural ſtrong growth recommended by Lord Kaims and Mr. Anderſon, there cannot be a more durable and effective encloſure: but in many ſituations it may be adviſeable that the quicks ſhould be ſhortened when about three feet high, both to prevent the hedges growing thin at bottom; and to take away the temptation of cutting them for flails or walking ſticks.—Where hedging is plenty, a ſmall ſtake-hedge improves the fence, whilſt the young quicks are growing; but I have generally obſerved, that few things in huſbandry are worſe executed in Ireland than dead hedges: the ſtakes are left irregular, and awkwardly long above the hedge, which affords an opportunity to hedge-breakers to pull them out with facility, and the wattling or lacing which is worked through the ſtakes is laid *too flat;* conſequently holds water and rots in a very ſhort time: the poſition of the lacing ſhould be at an angle of forty-five degrees, and the whole made firm and bound down by long twiſted binders wrought like the upper rim of a baſket; the ſtakes ſhould then be driven down again and ſhortened with a ſloping cut, about four inches over the binding; a ſtake-hedge made as above, may laſt five years very well.

Having thus ſecured his ground, the Planter ſhould turn his thoughts to his nurſery, or other means of procuring his ſtock of plants; and here variety of ſituations and ſoils, with which the different writers on this ſubject have been converſant, has cauſed ſuch a diverſity of opinions, that the Planter has need of exerting his judgment in deciding which he may adopt with the greateſt probability of ſucceſs,

However reſpectable the authority of thoſe writers who have recommended the ſowing tree ſeeds, where they are to remain, as the beſt means of raiſing valuable timber,—I would by no means have the Planter purſue their advice in a country ſo much inclined to the growth of graſs and ſtrong weeds, as is generally the caſe in moſt parts of Ireland.—I am confident, from my own experience, that the decided opinions of Miller, and Sir James Juſtice, in favour of the above practice, has retarded the growth of many plantations in this kingdom, and deadened the ardour of many a Planter, whoſe trees would long ſince have afforded, not only ornament and ſhelter, but profit, had he taken either Forteſcue or Boutcher for his guide—though, I allow at the ſame time, that there may be ſome ſituations where partial ſowing will be found advantageous—the Planter ſhould have a nurſery of his own, if he can command a light mellow ſoil, on which moſt kind of trees may be raiſed to advantage.

For every ſpecies of fir, I think there can be no better proceſs than that recommended by the Author of the Treatiſe on the Pinus Silveſtris, by which he means the Scotch Fir, though properly ſpeaking, it is the Pinaſter.

He directs the ſeed to be ſown on beds three feet broad, about as thick as onions, very lightly covered with earth, not above half an inch thick at *moſt*.—The beſt way to aſcertain that thickneſs is, after the bed has been made ſmooth with the back of a ſpade and the ſeed ſown, to lay on the bed a few ſmall laths, half an inch thick, and then to ſift on earth with a fine wire riddle, 'till it comes to the top of the laths.—The whole may then be ſmoothed and dreſſed as uſual.

If the weather be dry, water the ſeeds gently with a fine roſe.—The ground of the beds ſhould be rich, but not newly dunged, ſhould be rather a light than a ſtiff ſoil, by no means expoſed to the ſun, nor yet under the drip of trees, and open at leaſt to the North.

When the plants ſpring they bring up their ſeeds on their tops, which attract all the birds in the neighbourhood, who would, if not prevented, devour them entirely.—The beſt way, is to cover the bed with a cloſe maſhed net.—Nothing farther need be done till the beginning of winter, unleſs weeding the beds now and then; to prevent the little plants from being forced out of the ground by the froſt, it is good to ſift a quantity of *ſaw-duſt*, ſhellings of meal, turf-mould, ſand, or aſhes, merely a ſufficiency to inſinuate itſelf amongſt the young plants, about twelve thouſand of which may be expected from the pound of the Scots fir ſeed.—The ſmall twigs or boughs of timber trees, ſuch as elm or beech, ſpread thick but lightly on the beds, are known to keep out froſt better than more ſolid ſubſtances; the method above recommended of ſowing fir ſeeds on beds of no greater breadth than three feet, will be found the moſt advantageous for all ſorts of tree ſeeds.—They are kept clear of weeds without injuring the young plants, and in taking them up for tranſplantation, the whole roots may be raiſed together from the bed by two ſpades oppoſite each other, without injuring a ſingle fibre; the quantity alſo which will ſtand on ſuch beds, if properly ſown, will not be too great ſo as to mildew, or cauſe the ſeedling plants to be too much drawn up: On the other hand, I have found ſingle drills, though recommended by many books on the ſubject of planting, to be liable to great failures, from being too much expoſed to ſun, wind, and cold.—I would, therefore, ſow all tree ſeeds on ſmall beds, and if they come up too thick, thin them with diſcretion the firſt year.—Thoſe which are thus taken out, may be pricked into other beds, and will in two years be fit for planting out.

The ſeeds ſhould be covered with fine mould, pretty much in proportion to their ſize, the ſmalleſt requiring about half an inch, and the largeſt, ſuch as the walnut and cheſnut, from two to three inches, according to the nature of the ſoil; but if it were not from an apprehenſion of injury from mice, birds, &c. I think it much better to give rather a light than a deep covering.—It is more agreeable to the proceſs of Nature, where the acorn is often found, vegetating with vigour on the ſurface of the ground, and by this means, more ſoil is afforded under the plant for the expanſion of its roots, on which ſo much of the Planter's future hopes depends, that he had much better give up the thoughts of raiſing ſeedlings, and purchaſe what he may want from a nurſery man, than attempt it on a ſtiff clay or poor hungry gravel. This I can aſſert from many inſtances within my own knowledge; and ſo far are the beſt modern practitioners in planting, from co-inciding with the long-received opinion, that a nurſery ought to be on a poorer ſoil, than that which is deſigned for the plantation; that Kennedy is confident, every nurſery-man in England will join him in opinion, of the propriety of having trees raiſed in ground equally good, at leaſt if not *better*, than that on which they are to be planted: and contends, that for different purpoſes, which we ſhall ſtate hereafter, the nurſery cannot be made too deep, nor be too well prepared.—Boutcher, who allows the ſpecious appearance of the theory, and had continued the practice for ſome time himſelf, ſays that he found, from repeated experiments, the bad effects of committing young and tender ſeedlings to poor ground; and inſiſts on the abſolute neceſſity of their being nurſed in a generous ſoil, in order to promote that vigorous growth, which alone can enable them to ſtruggle with the inconveniencies they may be ſubject to at a later period: from my own experience, I have known trees which had been tranſplanted from a poor nurſery in which their bark had been hardened, to remain for years at a ſtand until they were cut to the ground, and had then, as I may ſay, received a ſecond birth; whilſt the fir from the ſame nurſery, which could not be cut down, though they continued to grow; yet by their ſlender ſtems in proportion to their height, and a certain blackiſh hue, have evinced for many years the injury they ſuſtained in the early part of their growth; in fact, the ſucceſs of a tree when tranſplanted, depends on the goodneſs of its root; or in other words, on the quantity of fibres, which open as ſo many mouths to ſuck in nouriſhment; ſome of theſe fibres muſt be loſt in tranſplanting; and that ſoil which produces the moſt of them, promiſes the leaſt check to the tree on its removal.—The richeſt and melloweſt ſoil, is undoubtedly moſt capable of producing vegetation, and conſequently furniſhing the moſt fibres; this will appear moſt ſtrongly, if we apply to analogy, is not the beſt fed calf the moſt likely to make the largeſt bull?—Is not every animal the hardier and more capable of labour, when grown up, for having been plentifully and vigorouſly nouriſhed in its infancy; let not the Planter then be afraid of making his nurſery rich by any ſtrong manure he can compaſs; I ſhould wiſh my nurſery to be rich enough to produce cellery without dung, and deep enough for liquorice.—A miſtaken notion has prevailed, that a deep ſoil makes the roots too deep; but experience ſhews, we have nothing to apprehend from this circumſtance in young trees, and frequent tranſplantation prevents it in thoſe of an older growth.

I recommend frequent digging the ground near the plants in the nurſery; it operates on the root, as clipping does on the branches of a hedge: it thickens and encreaſes the fibres near the main ſtem, and forms them into a compact ball for tranſplantation.—As to the depth it ſhould be prepared to, that depends on the purpoſes for which the plants are wanting, viz. nine inches deep for trees to be tranſplanted in the nurſery, and nearly double that depth for thoſe that are to be planted out at once from the *ſeed bed* to where they are to remain, in order to gain that extenſion of root ſo eſſentially neceſſary for the ſucceſs of the Planter on *ſhallow* ſoils: Kennedy conſiders this ſo material an object, as to be ſurprized that the raiſing of trees for this purpoſe, has never been made a diſtinct article in the nurſery buſineſs—hence it follows clearly, that the directions for the preparation and management of the nurſery muſt depend in a great meaſure on the nature and ſituation of the ſoil to be planted, which may for the ſake of order be conſidered in general under the following heads:

1ſt. Lay ground or tillage land of a ſufficient depth to bear trench plowing, but in a bleak expoſure.

2dly. Natural woodland amongſt ſhrubs and thickets.

3dly. A fertile ſoil, with good ſhelter.

4thly. A dry ſhifting ſand.

5thly. A ſhallow ſtoney or moory ſoil.

6thly. A deep, dry, or heathy moor.

7thly. Actual red bog.

I ſhall ſay ſomething of the management of the nurſery for each of the above purpoſes; and after a few obſervations on the manner of pruning trees for tranſplantation, and the beſt method of conducting the buſineſs of planting in general, proceed to conſider the above heads ſeparately, and give ſuch directions as reſult from my own experience, or have been recommended by the beſt practical writers on the ſubject.

For planting under the four firſt heads viz. *lay ground, in a bleak expoſure*—in *woodland*—*on a good ſoil with ſhelter, and in a dry ſhifting ſand*; the management in the nurſery may be pretty much the ſame, with this difference, that for the firſt and laſt of theſe heads, the ſhorteſt and ſtouteſt bodied plants muſt be choſen: whereas in a good ſoil well ſheltered, plants of a larger ſize, and which have remained longer in the nurſery, may be ſafely planted; and in woodlands, amongſt a thicket of hazel, thorn, &c. ſtill taller plants, and even thoſe which have remained in the nurſery, to a ſize which would render their removal in any other ſituation very precarious, may here be ventured out with the utmoſt probability of ſucceſs.

The plants for all the above purpoſes, ſhould be pricked out from the ſeed bed, upon ſmall ridges or beds about three feet broad, three rows in each bed, at a foot aſunder, which will give the nurſery-man an opportunity of under-cutting the roots of the *deciduous* plants with a ſharp ſpade, at about eight inches under the ſurface, the year after their firſt tranſplantation—in theſe beds, if they remain two years after this operation, they will form ſuch a matt of fibres, that they may be removed with the greateſt certainty of ſucceſs, to any ground deep enough to receive their roots, which at the ſame time, will be of ſuch a weight as to balance their heads, and keep them upright with little or no trouble; a matter of no ſmall moment in open grounds, eſpecially ſuch as by tillage, or other preparation, have been brought into a ſtate ſufficiently mellow for the reception of the plants.—There cannot be a better method than the above, for all deciduous trees, except oak, Spaniſh-cheſnut, and walnut, whoſe treatment I ſhould wiſh to vary ſo far, as not to ſubject them to a ſecond removal; but would ſow the acorns, cheſnuts or walnuts, about four inches aſunder, on little ſquare ſeed beds, about four feet broad; and the ſecond year would undercut them as above, about a foot below the ſurface, from thence they may be removed at four years old, with nearly all their roots, will ſuffer very little check on removal, and if they like the under ſtratum of their new ſituation, will in a very few years make as ſtrong and penetrating tap roots as if they had been ſown there, with the additional advantage of having at the ſame time vigorous lateral ones; where *timber* is the object, I ſtrongly recommend the above practice, but where the *fruit* of the Walnut or Cheſnut is in contemplation, &c. they ſhould be tranſplanted two or three times at leaſt in the Nurſery previous to their final removal.

For *a ſhallow thin ſoil*, whether *moory or rocky*, Kennedy recommends three year old plants from the *Seed-bed* out of a deep well prepared Nurſery; taken up with all their tap roots and every fibre poſſible; and as Mr. Forteſcue for planting in *red bog*, adviſes the placing the extremity of the tap-root in a little cleft in the end of a ſtick, and thus inſerting it in a hole previouſly made with a crow or ſtake, preſſing the ground cloſe to the root with the foot, it is obvious that plants for ſuch purpoſes, ought to be *ſeedlings* raiſed as before in a Nurſery which has been *trenched* and well prepared to a *good depth*.

Thus for the production of plants for every ſoil and ſituation, a fertile well prepared Nurſery will be found the beſt; but with this difference, that in general it is to be made *deepeſt* where the plants are intended for a *ſhallow ſoil:* this ſeeming contradiction will be explained when we come to the different methods of planting in different ſituations.

As to the pruning of trees at the time of tranſplanting, it is difficult to give general directions; ever-greens certainly ſhould not be touched with the knife, except where a root is greatly bruiſed or torn which had then better be cut off, or where a long ſtubborn tap-root prevents the tree ſettling well in the ground; in which caſe a nick half through with the knife, gives an opportunity of bending the tap-root horizontally, which will then throw out ſtrong ſhoots both from its extremity and from the ſpot immediately above the inciſion: I prefer this to cutting off the tap-root as is generally practiſed; as to the lower branches of Fir, they ſhould never be pruned off at planting; thoſe cloſe to the ground may be of material uſe by throwing a few ſhovels of earth over their extremities and pinning them to the ground in the nature of laying, which will keep the plant ſteady until the tree has taken to the ſoil; but then the branches ſhould by no means be ſuffered to take root. Deciduous trees of any ſize ſhould be pruned in the Nurſery if poſſible, a year before tranſplanting; in general a young tree ſhould be encouraged in its lateral branches, and at the time of planting the great ones only ſhould be ſhortened, leaving the ſmall ones on, which will detain the ſap in the ſtem and prevent the tree from being too much drawn and top-heavy; the beſt form of a well pruned tree being that of a cone or nearly the natural form of a *Fir*, it thus becomes more ſteady againſt the winds, which do more miſchief to young plantations in Ireland, than froſt, drought or any other circumſtance.

The Beech is mentioned by Boutcher as an exception to the above method of pruning; and conſiderable experience has confirmed me in the truth of this remark, that the leſs wood is taken off a Beech at the time of tranſplanting, the ſooner it recovers the removal; when once well eſtabliſhed, it will bear the amputation of limbs, which would have cauſed a canker in the ſtem immediately above the wound, had it been done at the time of tranſplanting; it is an inattention to this circumſtance which has given Beech the character of a difficult tree to tranſplant; however, care ſhould be taken that there are not two leaders left on, and where ſuch a ſecond leader proceeds from the middle of the tree with a ſtem nearly equal to that which you wiſh to ſtand, the beſt way is to cut it off *cloſe* if under an inch diameter; if over that ſize juſt above a ſmall branch at ſix inches or a foot from the principal ſtem; this will prevent the danger of a canker, and is in general the beſt way of cutting off ſtrong branches if not done the year before removal, when they may, and indeed ought to be cut *cloſe to the ſtem*.

In recommending the foregoing rule for *pruning* in preference of that given us by Mr. Speechly who from his practice at Welbeck directs us to cut off all the branches from the ſtem for half way up and to ſhorten the whole into a piramidical form, I differ from ſo eminent a planter with great deference, but I prefer leaving more of the lower branches at the time of planting from having frequently obſerved trees which were treated in any other manner to encreaſe conſiderably in their *heads*, whilſt the *ſtems* not only continued at a ſtand, but became hard and hidebound and required to be ſlit down the bark with a knife, which the gardeners uſually term *bleeding*, before they recovered their vigour, when the tree is once eſtabliſhed and in a thriving ſtate, the bottom branches ſhould every year for ſome years, have a tire or more pruned off, which will not only contribute to the beauty of the tree, but greatly improve the future timber.

Where the extremities of the roots are bruiſed in removal, they ſhould be taken off with a ſloping cut with the face downwards; in general the leſs the *root* is pruned the better, but if large bunches of matted fibres have been ſuffered to dry in the air on taking up, they ſhould be cut away or at leaſt ſhortened as otherwiſe no new ſhoots will be produced from them; and from this circumſtance, I venture to caution the Planter againſt relying too implicitly on the receipt for removing large trees given by *Evelyn* and others, however ſpecious it appears in theory, viz: cutting the tree all round and filling the trench up, and ſo leaving it for one year before removal: I can ſay from my own experience on many beech trees ſo managed, that thoſe of the ſame age and upon the ſame ground, which had been removed *at once* without ſuch preparation in a very few years far ſurpaſſed them; the great maſſes of tufted fibres which were carried to the new ground in the former method growing mouldy and rotting away, and the roots which had ſupplied them the year before not being in condition to throw out new ones; whilſt thoſe trees of about twenty years old, which were taken at once to their new deſtination, produced healthy fibres which ſoon became vigorous roots—if a Planter wiſhes to try Evelyn's method, he ſhould by all means let the tree ſtand *two years at leaſt* after cutting the roots before it's removal, *at which time* he may prune off the ſmalleſt fibres of the laſt year; and carry only the more hardened and woody part of the roots to the new ſite.

Beech and ſycamore were the trees on which my experiments were made; perhaps oak, as having naturally fewer fibres, might have anſwered better in the method recommended by Mr. Evelyn.—Too much care cannot be taken to prevent the effects of drying winds and froſt on the roots of trees, at the time of taking up and tranſplanting; a tub of water thickened with earth to the conſiſtence of cream, ſhould be ready to receive *ſeedling plants* by all means, and moſt others, in general as they are taken up; and cloſe boxed carts ſhould be prepared for larger trees, in which they may be placed *perpendicularly* on the bottom of their roots; many trees are ſpoiled by carrying them horizontally, one ſide of the root is generally broken to pieces, and the cock ſhoots of the fir are injured in taking them out of the cart in that poſition; the more hands, and the abler the men employed, in taking up trees of every ſize out of a nurſery, the ſafer they will be got up.

When the ground is once opened, a ſtrong ſteady pull will raiſe a tree, with nearly all its roots uninjured; but if there is not ſtrength ſufficient for that purpoſe, the roots are ſhortened, and often cut to pieces with the ſpade, to facilitate the removal.—In carrying on a large plantation with effect, much depends on the method of arranging the workmen: that which is given by Mr. Speechly, in his Deſcription of the great Improvements by planting at Welbeck, appears to be made with much judgment; he divides his workmen into four claſſes, viz. *takers-up*, *pruners*, *carriers*, and *planters*.—Soon as the plants are taken up he beds them in the ground in the following manner; a trench is opened at leaſt fifteen inches deep, and the young trees laid in with their tops aſlant, covering their roots well, and half way up the ſtem with the earth that comes out of a ſecond trench, which is filled in like manner, and ſo on, till a ſufficiency are taken up for the preſent occaſion.

In a light ſoil, this trouble is but little; and by it they are ſecured both from the danger of their roots drying, and their ſuffering by froſt: they are carried in a low-wheeled waggon from the heaps where they have been bedded, to the pruners; when they arrive, the planters and pruners aſſiſt to bed them there, in the ſame manner as before deſcribed; there is a portable ſhed for the pruners to work under, which is alſo convenient for the reſt of the workmen, as a ſhelter in ſtormy weather; from the above heaps the plants are taken only, as faſt as they are wanted for the pruners; whoſe work is performed as before mentioned, with an attention at all times to plant with as much roots as can poſſibly be kept on: as ſoon as they are pruned, they are taken to the *planters* by the *carriers*, who are generally a ſet of boys, or the worſt of the labourers.—The planters go in pairs, one makes the holes, and the other ſets and treads round the plants, which work they generally perform alternately.

Though Boutcher prefers ſpring for planting every ſort of ſeedling; he allows he has had great ſucceſs in planting fir of all ages early in *Auguſt*; and ſtrongly recommends a trial of this practice.—It is not indeed an eaſy matter to aſcertain the beſt ſeaſon for removing of trees, ſo much depends on the nature of the ſoil and ſituation.—In ſtormy ſituations I prefer planting in ſpring: but trees planted at this time will require more watering: in general, we may ſay, that with few exceptions (amongſt which, I think the aſh is one, which though apparently a very backward tree, ſeems to be injured by removal late in ſpring) all the deciduous trees may be planted in any month between October and their time of ſhooting into leaf; and Millar, in his early editions, mentions the beginning of May, as the beſt time to plant oak.—Boutcher and Lord Kaims agree with him; and I have followed that practice for ſeveral years with ſuch great ſucceſs, that I venture highly to recommend it.

Out of ſome thouſand oak, tranſplanted the ſecond week in May, from a ſeedling-bed at Mr. Edgar's nurſery near the Foundling Hoſpital, where they had ſtood in that rich ſoil 'till above four feet high ſcarcely one failed though carried thirty miles to a high ſituation in the county of Wicklow; they were tranſplanted in the year 1778, and are now, in 1792, above twenty feet high, and thick in proportion.

Larch is another exception to autumn planting; the moſt experienced writers, recommend planting them juſt as they puſh out in ſpring.—Ever-greens in general may be planted from the beginning of April to June, and ſome kinds, as the holly, ſtill later; I have planted them with ſucceſs at Midſummer.

There is ſome reaſon however to think, that laurel and Scots-fir are exceptions, the latter of which, from repeated experiments, I would not wiſh to plant after the month of March, whilſt the former may be ſafely planted in November; or even the beginning of December, when the weather is ſoft.—Perhaps on the whole, we ſhall find, that the beſt general rule we can eſtabliſh for removing *evergreens*, is to tranſplant either *early* in autumn, or when their buds begin to ſhoot in ſpring.

In every young plantation, if there is not a natural growth of thorn, hazel, &c. ſeveral lines of broom ſhould be ſown for ſhelter, the coſt is little, and the effect in preſerving the plants from the wind is very great.—Moſt deciduous trees are apt to loſe the ſappineſs of their bark on tranſplantation; and I have found it of great uſe when I did not cut them down the ſecond year, to draw a line as before mentioned, with a ſharp knife through the bark from top to bottom, ſo as to let the tree ſpread, and prevent its being *hide-bound*.

I ſhall now proceed to give particular directions for planting, ſuited to the various ſoils and ſituations, as before ſpecified, and firſt,

For lay-ground or tillage-land of a ſufficient depth, to bear trench-plowing, but in a bleak expoſure.

The experienced author of Hints on Planting, gives the beſt directions for the preparation of ſuch ground by trench-plowing; which is to be done by a ſecond plough following in the furrow made by the firſt, going as deep as poſſible, and with a higher mold-board, throwing the earth over the firſt turned ſoil.

If the ground has been ploughed out of *the lay*, it muſt continue in the above ſituation for ſome months; by which time the turf at bottom will be rotten: it ſhould then be croſs-ploughed, and the deeper and finer the tilth is made, ſo much the better, for every ſucceſſive operation.

In good land thus prepared, almoſt any mode of planting may be adopted with ſucceſs; but as ſuch preparation generally implies a ſmooth open ſurface, and conſequently little ſhelter; ſtrong plants about five years old, and which have been tranſplanted two years before in the nurſery, are beſt ſuited to the purpoſe.—Their height will be ſuch as to eſcape injury from thoſe ſtrong weeds which ſuch a ſoil and preparation muſt naturally produce, and the ſize and weight of the roots will keep them ſteady and upright, without ſtaking or banking, which is a material circumſtance in a plantation of any extent.

If trees of the above deſcription cannot be eaſily procured, the taller evergreens may be aſſiſted, by covering a few of their lower branches with earth in the manner of *laying*, as before mentioned, and the deciduous trees, (beech and wallnut excepted) ſhould be cut cloſe to the ground, with a ſmooth ſloping cut; this advice of Mr. Forteſcue's he ſupports from his own experience, and aſſerts, that the firſt year's ſhoots have frequently exceeded four feet.

Mr. Forteſcue's practice however, was in general, on ground pretty much covered with hazel and thorn, but where we are entirely deſtitute of ſhelter I would adviſe a mode recommended above one hundred and twenty years ago, by Smith, in his *England's Improvement*, in which he adviſes the laying of all deciduous trees ſloping on the turf or ſod, turned over as uſually done in marking out our quickſet fences, covering them with the next ſpade of ſoil; and ſloping the bank which is laid over them down to the next row of plants, in order to conduct the rain to the roots; the rows ſhould ſtand ſo as to give the young plants the moſt effectual ſhelter, and the heads of the ſets ſhould be cut off at the time of planting, as we do our thorn quicks, from whoſe free growth when thus managed, we may ſafely adopt the practice, where the nature of the trees and expoſure of the ſituation would render them liable to be ſhaken in the ordinary mode of planting.

In leſs expoſed ſituations, I ſhould wiſh to defer cutting them down till after one or two years growth, when there cannot be the leaſt doubt that the trees ſo managed, will in a very ſhort time far excel thoſe left ſtanding.— For this purpoſe, the Planter ſhould often viſit his plantation, and when he ſees a tree dead at top or hide-bound, he ſhould cut it down within ſix inches at moſt of the ground; and where many ſhoots ſpring from the ſame root, all ſhould be cut off but the ſtrongeſt, and the dead wood of the old ſtock cut cloſe to the young ſhoot.

If the land *be a ſtiff clay*, it may be much Improved by ſand or lime, and when thus prepared there cannot be a better ſoil for *orchards*.— The fineſt in Worceſter-ſhire and Hereford-ſhire are on ſuch ſoils; the former of theſe counties has long been famous for its cyder, particularly that called *Styre*, from an apple of that name, which grows better in the foreſt of Deane and its vicinity, than many other parts of England.

This apple is ſaid to have been originally brought from Styria near the Tyrol, and is ſuppoſed to produce the higheſt flavoured cyder, when planted on a ſoil which contains a mixture of Iron Ore, as it generally does in the foreſt of Deane. We have large tracts of ſuch ſoil in Ireland, on part of which it might be worth while to make the experiment; but we can never hope for a good orchard from the practice too commonly adopted, of planting large grafted apple trees on a bleak expoſure.—We ſhould plant in the firſt inſtance, as Mr. Forteſcue with great judgment adviſes, four or five years old crab quicks or wildings (the former however are much the beſt,) in thoſe ſpots where they are to remain as the principal fruit trees of the future orchard.—They ſhould then be cut down and grafted or inoculated in a few years, on the young healthy ſhoots from the beſt ſorts of fruit trees. When the real crab thus grafted comes into bearing, it may be expected to continue in perfection for more than a *century*, in the mean time an immediate ſupply of fruit may be obtained, if the orchard be well ſheltered, by planting in the intervals dwarf apple trees, on Harlem ſtocks or pitchards, which are truncheons made of the bearing boughs of ſuch ſort of apple trees chiefly, as throw out round the lower parts of their branches, a ſort of burr or excreſcence, very much reſembling the burrs of a deers horn, where it joins the head, on which part of the branch a ſtrong fibrous root is ſpeedily formed.

The celebrated Iriſh cyder apple, called the *Cacagee*, grows very well when planted in this manner, as do ſeveral of the beſt cyder fruits on the banks of the Black Water in the county of Waterford; but it ſhould be remembered, that trees thus raiſed, as well as thoſe grafted on *dwarf ſtocks*, though they come into bearing very ſoon, are of very ſhort duration, we ſhould not only take care to have a ſucceſſion, but we ſhould perpetuate the beſt fruits, by grafting them from time to time on the crab ſtocks in the orchard, a ſufficiency of which ſhould be ready trained up to ſingle ſtems for that purpoſe.

We have many places in Ireland, which, though not ſuited to the apple, would anſwer the pery pears to the utmoſt of our wiſhes; but in this caſe, we ſhould be attentive to the kinds we plant.—Thoſe called in Hereford-ſhire, *Taunton Squaſh* and *Beſbury*, are the pears moſt approved of for making pery, which I have known to be ſold in the neighbourhood of Roſs, in Hereford-ſhire, for ten guineas the hogſhead by the maker, and that to the amount of fifty hogſheads, all the property of one perſon.

It was with this ſparkling beverage that the amiable Kerles of Roſs, in Herefordſhire, better known as immortalized by Mr. Pope, under the name of the *Man of Roſs*, uſed to treat twelve of his neighbours at dinner every Thurſday,

day, ſelected indiſcriminately from the gentlemen and farmers who attended the market of that town.—The general communication on ſubjects of agriculture, &c. which naturally reſulted from ſuch a meeting was of advantage to both parties, whilſt he afforded in himſelf an example of every ſocial virtue.—Though liberal to magnificence in the execution of ſeveral public works, for the advantage and ornament of the town, many of which ſtill remain, he was ſo plain in his manners, and frugal in his expences on *himſelf*, that he was enabled to extend his charity to a degree which has ſince become proverbial, and to give this conſtant weekly entertainment to all his neighbours in their turn; at which time his table was covered with all the beſt productions of Herefordſhire, and the neighbouring counties; but no foreign wine or ſpirits were ever allowed to appear, their place being amply ſupplied by fine beers, Redſtreak and Styre cyder, and particularly by Pery of a quality little inferior to the beſt champaigne.—Some of this kind I taſted in his own parlour at Roſs, when on a tour I made a few years ſince, through the cyder counties, on purpoſe to gain information on the ſubject of orchards.—His houſe was then converted to a well kept inn, from the maſter of which, a very well informed man, and the curate of the pariſh, who dwelt with rapture on the memory of Mr. Kerles, I obtained the above particulars, as well as ſome uſeful hints on cyder and pery.

The pleaſure and advantages ariſing from plantations of other ſpecies of fruit trees beſide the apple, ſeem to have been much better underſtood in the laſt century than in the preſent; many of the writers on Rural Œconomicks of thoſe days, dwell with ſuch heartfelt ſatisfaction on the directions they give for laying out and planting their "*Labyrinths of* "*Sweets*," and "*Paradiſes of Content.*"—That notwithſtanding the formality of ther arrangement, even a faſtidious Modern Improver might be tempted to take a morning walk in them, in order to enjoy " the verdant carpets" they deſcribe, " bordered with the primroſe and

" the violet, and all the pride of ſpring, between the woodbine hedge, and fragrant eglantine, ſheltered by the filbert, plum, quince and medlar, or ſhaded over by the lofty walnut, cheſnut, or cherry tree.

" *On whoſe ſprays,*
" *The Throſtle chaunts his roundelays.*"

This decorated walk which is recommended to the good *huſbandman*, in many authors of the laſt age, and differs very little from the modern ſhrubbery, except in being formed of ſtraight lincs, and invariably bordered with trees which were planted for *uſe*, as well as *ornament*, was generally carried round a conſiderable piece of ground, which contained the orchard properly ſo called, the garden for eſculent plants, and uſually ſeveral ponds for fiſh and water-fowl.

And perhaps on the whole, a few acres could not be more agreeably or advantageouſly diſpoſed of, eſpecially as ſuch an improvement is within the compaſs of many who could not afford the extent of ground, and other expences attending the practice of modern ornamental gardening.

The great longevity and ſtately growth of the walnut, cheſnut, and wilding cherry, entitle them to the firſt rank amongſt timber trees; but in order to improve their fruit, they ſhould certainly be grafted or inoculated: this appears to be the conſtant practice abroad, and I have reaſon to think, that the difficulty we find in the proceſs here, ariſes from the gardeners making uſe of loom or clay, in place of a ſtrong *grafting wax,* which I have obſerved has been applied to all the grafted nuts which are brought from Holland.

In planting foreſt trees, the oak, wallnut, Spaniſh cheſnut, elm and aſh, ſhould be our principal conſideration, which may be planted at about twenty feet aſunder, avoiding ſtraight lines, for many reaſons; the plantation ſhould then be thickened up with any other ſort of trees; placing Scots fir and beech in the moſt expoſed ſituations, except in the neighbourhood of the ſea, where the ſycamore is obſerved to ſtand its effects better than either of the above.

Hazel nuts, and the ſeeds of Liburnam, Portugal, Spaniſh, and common broom may then be ſcattered through them ; and juniper, holly, and laurel planted towards the front, and near the opens and walks, which will be at once very ornamental ; and afford good cover for game.

For planting *in natural woodland, amongſt ſhrubs and thickets.*

It has before been obſerved that the talleſt and weakeſt bodied plants may be ſelected for that purpoſe. In the ſpaces which they may fill amongſt the ſhrubs and under-wood, they will certainly ſucceed, and make good trees, if taken up with roots proportioned to their ſize, and planted with care.—Experience has proved, that where hazel and white-thorn grow with vigour, almoſt every ſpecies of foreſt tree may be planted to advantage : it will only be found neceſſary to prevent the branches of the ſhrubs from over-topping, or interfering with the young ſhoots of the plantation, and paying a proper attention to keep the plants from being top-heavy, as they are more apt to be in this ſituation than in any other, and generally exhibit ſuch marks of luxuriant health, as appear extraordinary to thoſe who conſider the neighbouring ſhrubs as likely to draw all the nouriſhment from the *foreſt-trees*; but as Forteſcue juſtly obſerves, Providence has wiſely ſcattered the food of each plant over the ſurface of the earth, ſo that many trees of *different ſpecies*, will grow well in an acre of ground, where the ſame number of *one kind* would actually ſtarve for want of nouriſhment; and we have only to view a grove of the laſt age, conſiſting of one ſpecies of trees, to be convinced of the inferiority of each tree which compoſes it, to one of the ſame age growing amongſt plants of different ſpecies, though equally cloſe and numerous.

The holes ſhould be made amongſt the ſhrubs, from eight to twenty feet aſunder, as an open offers.—In this unwrought ſoil they ſhould be conſiderably larger than the roots deſigned to be planted in them, in order to give room to the young fibres, and if made ſome time before the planting, ſo much the better.—But the good ſoil, after being chopped and broken fine, ſhould be returned *into the holes* : for if left on the edge till the planting ſeaſon, as is uſually done, the *finer parts* will be waſhed by the rains into the ground, or loſt amongſt the graſs and leaves, ſo as very much to retard the progreſs of the Planter.

For making holes in *wood-land*, a long bladed hoe, with a narrow axe on the other point, will be found to be a very uſeful inſtrument, as here the roots of hazel and thorn are continually croſſing the ſpots where the holes ſhould be made.

What we thin out of our plantations of ſix or ſeven years growth, tho' much drawn up, may be planted in this ground with great ſucceſs.—They will here recover ſtrength and a proper form.—I have known larch, which had been apparently dead for ſome time, of a duſky lead colour, and broke off by the cattle at three feet from the ground, where they were about an inch and a half diameter; on being removed into a hazel coppice about twelve years ago, not only to recover their natural colour, and make new leaders, but become moſt beautiful trees, and are at this time, above thirty feet high.

When we have not the advantage of *natural wood-land*, but poſſeſs a *good ſoil* and *ſtrong land ſhelter*, well furniſhed plants either from a nurſery, or the thinning of plantations, about five or ſix feet high, may be removed with ſucceſs, and even thoſe of a larger ſize, if ſufficient care is taken to raiſe them with as much roots as poſſible, and carry them without injury to their new deſtination.

For this laſt purpoſe, there cannot be a better machine than that firſt introduced into this kingdom by Mr. Robinſon, a Scottiſh Engineer.

It conſiſts of a pole about ſixteen or eighteen feet long, divided at the ſtronger end into two branches, which are morticed into an axle-tree, over which a piece of timber is bolted, about a foot high, with a hollow on the upper part ſix inches wide and four deep, which ſhould be dreſſed very round and ſmooth; to this axle-tree, which muſt be ſeven feet long, a pair of high and very ſtrong cart-wheels are occaſionally fitted.——The hollowed piece of timber, being firſt well covered with ſtraw or a mat, is then applied cloſe to the trunk of the tree; and the pole, which will in this ſituation lie up the ſtem, is to be tied cloſe as poſſible along it, putting ſtraw between the bark and the cords; the roots having been previouſly cut round, about three feet from the trunk on every ſide, to the depth of the under fibres, and a rope applied to the top of the pole; the latter is drawn downwards, and with it the ſtem of the tree, which conſequently forces up the *whole root* from its under bed with all its fibres, and leaves it hanging on the axle-tree between the wheels; it is then drawn with the root foremoſt over the hole deſigned for its reception, and the pole being freed from the ſtem, the latter regains its natural poſition, and the earth being carefully laid about, and inſerted with a blunt pointed ſtick, amongſt the roots, and the whole well watered, the tree will ſcarcely exhibit the leaſt mark of removal in the ſecond year.

It is evident that this machine not only accelerates the taking up of large trees, but carries all their roots without injury; which is ſeldom the caſe when they are obliged to be brought any diſtance in any other manner of conveyance; and as this machine will alſo be found of the utmoſt ſervice in rooting up ſuch trees as a Planter may wiſh to remove, without an intention of planting again; but where the roots would prove injurious or diſagreeable if ſuffered to remain in the ground.—I annex three explanatory drawings, and will venture to aſſert, that with a little attention to *Boutcher's* advice of twice tranſplanting, and digging round the roots in the nurſery, trees may be thus removed of ſuch a ſize, as will afford, not only immediate decoration, but conſiderable ſhelter; it muſt however, be always remembered, that a great extent of plantation can never be effected with the waſte of time and expence of labour, which ſuch heavy operations require.—They are only ſuited to the gratification of a Planters wiſhes in particular inſtances—from ſuch you can indulge but ſlender expectations of future fame, as an improver of your country—a few dotting trees will never change the face of an extenſive tract of naked ground: in ſuch ſituations,

> " *Rich the robe,*
> " *And ample let it flow, that Nature wears*
> " *On her thron'd eminence: where'er ſhe takes*
> " *Her horizontal march, purſue her ſtep*
> " *With ſweeping train of foreſt; hill to hill,*
> " *Unite with prodigality of ſhade.*"

Mason's English Garden.

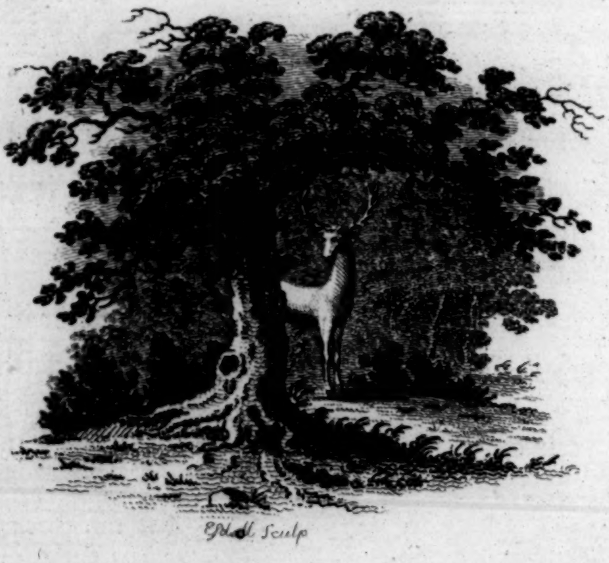


Plate I. *Figure* 1.

Shews the pole divided at the end, and inſerted into the axle tree, with the hollow'd piece of timber over it.

Figure 2.

Repreſents the machine brought cloſe over the root of the tree, and the pole tied up along the ſtem.

Figure 3.

Shews the manner in which the root will ſit between the wheels; when the pole has been drawn down, the little wheel behind may be uſed by inſerting its frame into the pole, as the ſingle wheel of a plough uſually is done; but except for very large trees, and ſuch as are to be carried a conſiderable diſtance, there is no occaſion for this third wheel.

Plate I.

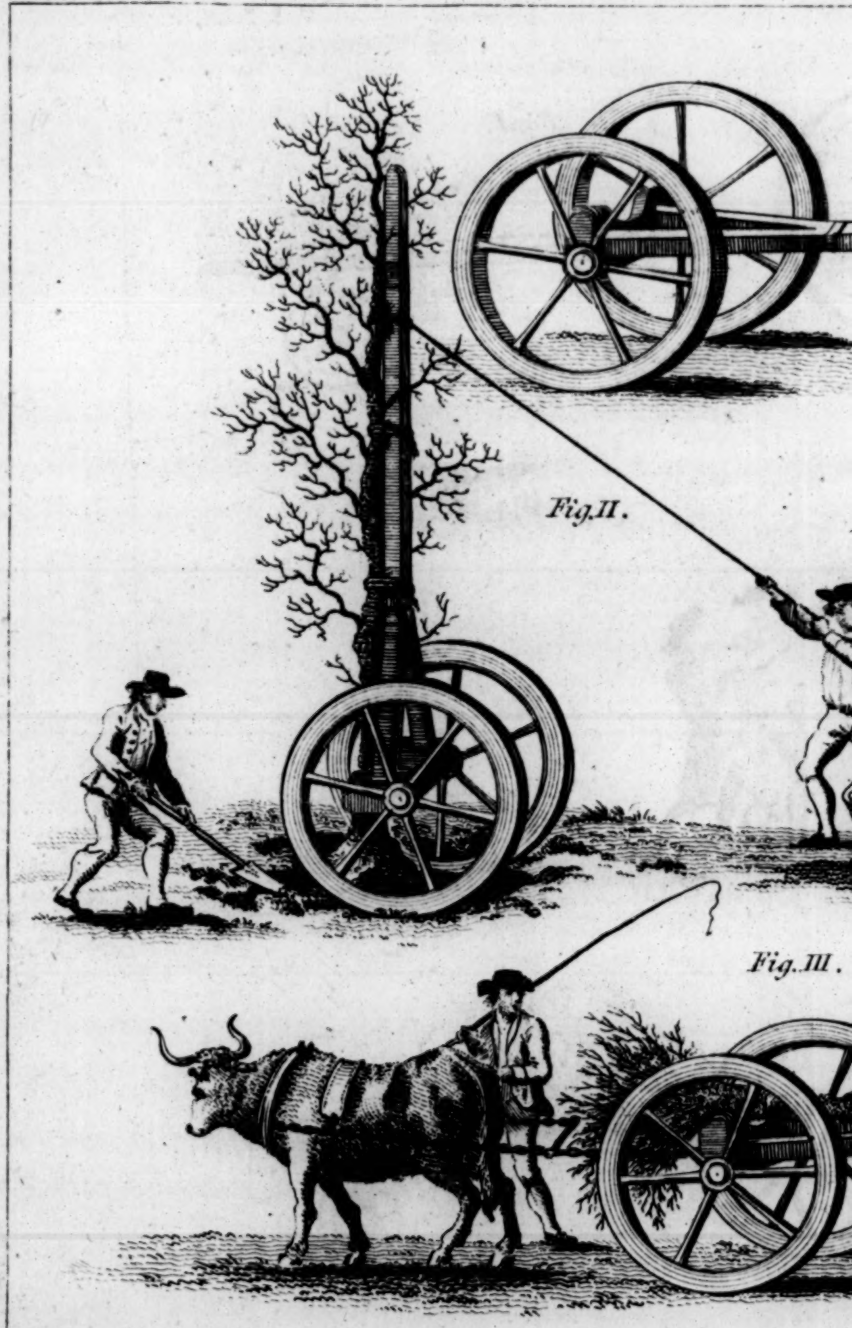
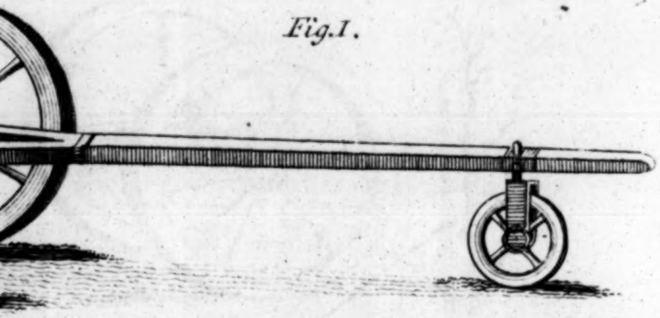


Fig. II.
Fig. III.

P. 46.

Fig. I.



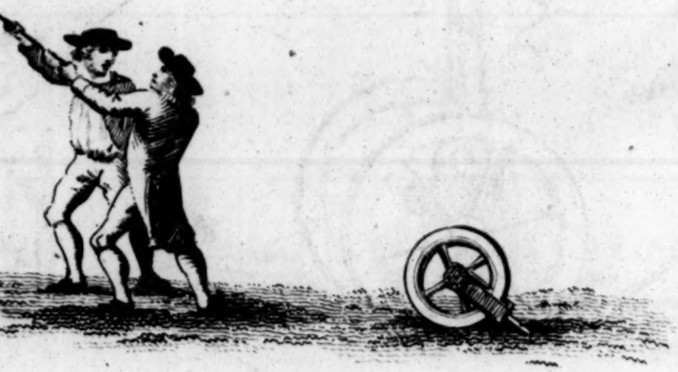
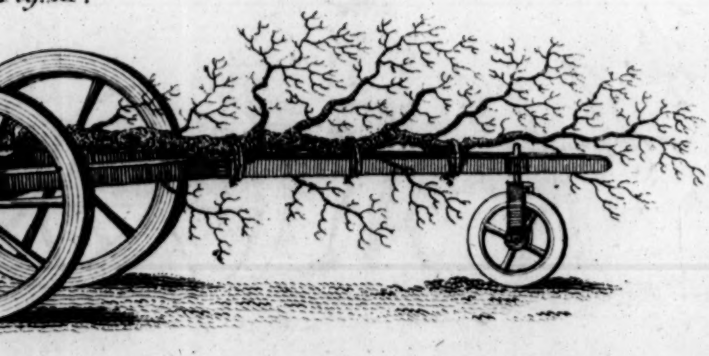


Fig. III.



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For the fourth diviſion of ſoils: viz. *a dry ſhifting ſand*: the plants ſhould be no higher than barely to eſcape being covered with the drifts.—On ſuch land, ſtrong weeds do not abound, and the ſooner the plant is enured to the ſoil after the ſeedling fibres attain a reaſonable firmneſs, the better chance of its ſucceeding: we cannot aſſiſt its growth by ſtirring the ground in this drifting ſand; for as the fault of the ſoil is want of coheſion, it is not adviſeable to dig amongſt the trees when once planted. The holes ſhould be made at the time of planting, and if the expence would not be very great, a cart of mold ſhould attend the operation, and another with water; and when the holes are half filled up over the roots, ſome water ſhould be poured on, and the remainder of the earth and ſand thrown in.

Though ſuch a driving ſand ſeems the leaſt likely of any to gratify the Planter's wiſhes, we have ſeveral inſtances of its producing a great growth of timber.—Mr. Speechly deſcribes thoſe very ſucceſsful plantations of the Duke of Portland at Welbeck, to have been made on ſuch a ſoil, which he ſays is called in Nottingham-ſhire, *Foreſt-lands*, being a continuation of hills and dales, covered merely with a mixture of ſand and gravel, the hills abounding moſtly with the latter, and the vallies with the former; as the ſmaller particles are by the wind and rains brought from time to time from the high grounds to the lower.

In a well ſheltered part of ſuch a valley, the nurſery is formed, which is to ſupply plants for a conſiderable tract of the ſurrounding hills.—The plants raiſed there for that purpoſe are oak, beech, larch, Spaniſh cheſnut, Weymouth pine, and all ſorts of fir, (the Scots excepted,) together with ſome inferior ſorts for the purpoſe of ſhelter, amongſt which, the birch is moſt prized.

The quantities raiſed on theſe ſandy valleys at the Duke of Portland's muſt be very great indeed, for the ſupply of ſuch extenſive tracts of plantation, from ſixty to a hundred acres being often planted, as Mr. Speechly ſtates, in one ſeaſon, and that conſidered only as a part of one deſign for clothing the great chain of hills above deſcribed.

The land intended to be planted, is well ploughed and manured with lime, about twenty-four barrels to the acre, for a crop of turnips: when the turnips are eaten off, the ground is ploughed with a trenching plough, to the depth of twelve inches.—This deep ploughing is of the utmoſt ſervice both to the future growth of the plants, and to the eaſe of carrying on the operation of planting.

The manner of diſpoſing the trees in the plantations at Welbeck, depends much on the particular ſhape of the part to be planted; and on the taſte of the perſon employed at the time.

Between the hills towards the outſide of the plantation, ridings are frequently left from ſixty to a hundred yards in breadth; which are contracted towards the middle of the woods to ten or twelve yards: on the tops of the hills, where there are plains, lawns are left of an acre or two in extent, which form a pleaſing variety; in ſome of them cedars of Lebanon are planted at irregular diſtances to form hereafter an open grove.—This tree ſeems peculiarly adapted to this light moiſt land; on the outſides of the plantation next the ridings, evergreens are ſcattered profuſely, hollies, laurels, yews, junipers, &c.—Sometimes each ſort by itſelf, and at other times intermixed, but, always ſo as to avoid the appearance of a regular edging, now and then a rare foreign tree is introduced, ſuch as the Virginian Tulip tree, &c. &c.

When the ground is laid out into quarters for planting, certain parts are aſſigned to beech, larch, Spaniſh cheſnut, &c. which are introduced in irregular patches, through the plantations, with an excellent effect, from the diverſity of ſhades, eſpecially in thoſe parts of the foreſt, where four or five large hilly points meet in the ſame valley, and tend, as it were to one center.

In carrying on the work of planting, the largeſt trees of every ſort are got in firſt; were they to proceed otherwiſe, the making a hole for a large rooted tree, after the ſmall ones were planted as thick as they ought to be, would cauſe great confuſion.—Birch is generally the tree to begin with, as it bears removal perfectly well. At the height of ſix or ſeven feet, of thoſe, or rather of a leſs ſize, three or four hundred are planted on one acre; and nearly the ſame number of their firſt ſized oak; then the maſſes of larch, birch, and Spaniſh cheſnut are got in; and ſome of a ſmaller ſize of the ſame ſpecies are inſerted through the whole: then a number of ſmaller ſized oak, and laſtly, theſe are thickened with ſmall ſeedling birch, the whole made up to about two thouſand plants of different ſizes and ages to the Engliſh acre, great care being taken, that they are as free from ſtraight lines and regularity as poſſible, both to give a natural air to the plantation, and to avoid the effect of penetrating winds.

When the planting is finiſhed, a conſiderable quantity of acorns, keys, and maſt, are inſerted in ſhort drills of two or three feet in length amongſt the young trees, which in ſome ſituations may be conſidered as the moſt certain ſource of a good growth of timber.—This leads to the progreſs of their oak at Welbeck, of which Mr. Speechly gives two inſtances, one of twenty-eight, the other of ſifty years growth; in the former they are about twenty-ſix feet high, and about eighteen inches round: in the latter they exceed ſixty feet, and are ſomewhat more than three in circumference; but are very long and fair in the bole, without knots or lateral ſhoots, from their having been at firſt thickly planted, and regularly thinned only as they required room.

In addition to this ſatisfactory account from Mr. Speechly, we have the experience of the late Duke of Cumberland on Bagſhot, as an encouragement to the owners of ſandy gravely waſtes—here a looſe red ſand, or hard whitiſh gravel and ſpar, ſeemingly a decompoſition of mangancſe and granite, mixed with a ſmall portion of black turfy mould formed the whole of the ſoil of that great tract, which he ſpeedily covered, not only with fir of various kinds, but with Spaniſh cheſnut, laurel, lignum vitæ, juniper and other ever-greens and ſhrubs.

The next diviſion, viz. *the ſhallow rocky ſoil*, is peculiarly adapted to improvement by plantation, which will be found to be not only the moſt pleaſing, but the moſt œconomic meaſure we can adopt.

For the better carrying the Planter's deſign into execution here, I ſhall follow *Kennedy*, who ſeems to have had great experience on ſuch ſoils.

As it will be neceſſary to plant in every ſpot where a little earth can be got amongſt the rocks, he recommends the uſe of light long bladed hoes, with a pick on the other end: with the broad end, or a ſharp narrow ſpade, the turf ſhould be pared off as thin as poſſible; with the narrow end, the ground muſt be picked up about ſix inches deep; taking out ſuch ſtones as the hoe looſens, for the ſpace of about two feet diameter,

ter, and avoiding the rocks; when they intervene, ſo as to prevent a hole being made for a greater ſpace than ſix feet, three or four holes may be made very near together in the next interval, as the trees, though cloſe on one ſide, will have ſufficient air on the other, and in ſuch ſituations, the Planter muſt avail himſelf of every poſſible ſpot which will admit a tree.

The earth thus ſtirred up in the hole, may be left in it, and the turf which was firſt pared off, turned upſide down, and laid on one ſide until it has been well moiſtened by autumnal rains; immediately after which, the trees ſhould be planted. Spring would be a bad ſeaſon for this work, from the danger of drought, which would be doubly deſtructive in this dry, burning ſoil, and for the ſame reaſon, the turf pared off ought not to be put in the *bottom* of the hole, as is uſually done in other ſituations, as it is here generally light and ſpungy, and full of ſedge, which would admit the parching winds, and prevent the plants taking root.

Having thus waited 'till after the firſt heavy autumnal rains, take up as many *ſeedlings* from a deep well prepared nurſery as can be planted in one day, preſerve all the roots poſſible, and let them be carried to your plantation in a flat baſket covered with wet moſs.— A ſpace of about ten inches broad muſt be opened in the center of each hole, which may be done by a chop of a broad ſpade, and turning it once about; in this the ſeedling plant muſt be laid *horizontally*, with all its roots ſpread out about three or four inches deep if you can; then raiſe up the head of the plant juſt at the junction of the root with the ſtem, and put the earth cloſe up to it; prick the reſt of the hole lightly with a ſpade, and cover it with the turf, graſs ſide down, after firſt making a cut in one ſide to introduce the ſtem of the plant, which will be more effectually kept in an upright poſture by this, than by looſe earth, and is preſerved by it at the ſame time from the effect of drying winds.

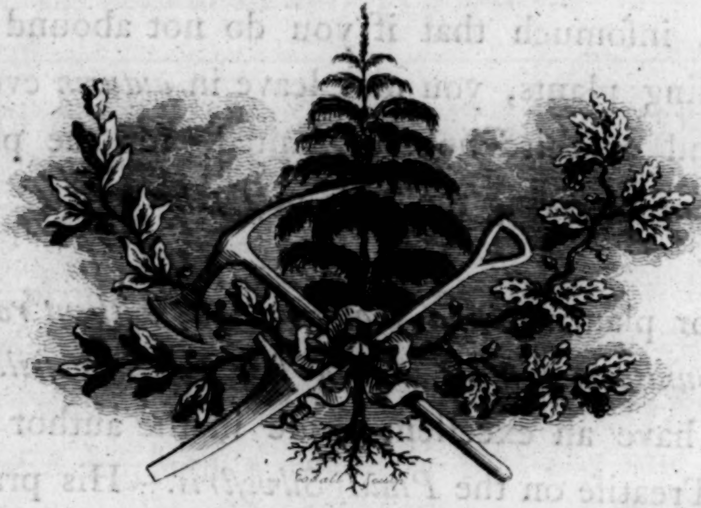
This is certainly an excellent mode of planting in a ſhallow ſoil, but I have ſome doubts whether it might not be better at the time of planting to cut down the deciduous trees (Birch and Walnut excepted) at about two inches from the ſurface; in this caſe the new ſhoot will be perpendicular, and never have the leaſt inclination to another poſition, which is not the caſe in Kennedy's mode, as he candidly admits, by directing the top of the tree to be turned to the North, that the ſun's influence may tend to keep the ſtem in an upright poſition.

In planting as above, as well as in every other ſituation, though the holes are *prepared*, two men ſhould always be together at putting in the plants; one ſhould be on his knees, holding the plant and ſpreading its roots, whilſt the other with a ſpade or ſhovel, throws on the mould in ſuch a manner, that the fine particles are equally diſtributed amongſt the fibres.—The roots of no trees ſhould be expoſed to the air if poſſible, but thoſe of *ſeedlings* in particular, the nature of their fibres render them peculiarly ſuſceptible of injury, and a want of attention in this point, has often rendered ineffectual all the preparation of the ground, and other care in planting.

In ſpring, acorns, maſt or other tree ſeeds may be ſown in the holes where the plants have failed, chopping the turned ſod through the earth in the hole, or placing it at bottom if not ſufficiently mellow; and as there is little danger to be apprehended from weeds in this ground, a fine growth may be expected from ſeed, inſomuch that if you do not abound in ſeedling plants, you may leave in *autumn* every ſecond or third hole unplanted, for the purpoſe of receiving the ſeeds in *ſpring*.

For planting *in a ſhallow moor, without rock, of a uniform ſurface, and a ſoft and wet ſoil.*— We have an excellent guide in the author of the Treatiſe on the *Pinus Silveſtris*.— His practice ſeems indeed to have been confined to ſuch a ſoil.

I ſhall therefore, tranſcribe thoſe parts of his work which I think moſt inſtructive for cultivating this uſeful tree, which, as Forteſcue obſerves, is never out of place, and flouriſhes in every ſoil and every climate from the ſandy plains of Heſſe Darmſtadt, to the craggy mountains of North Britain; which may be planted in our wet bogs, and will, at the ſame time, form the moſt beautiful covering for our dryeſt and bleakeſt hills.



He objects to tranſplanting this ſpecies of fir in a nurſery, and putting them out at three or four years old, both from the hazard they will run in removal at that age, and from the great inconvenience, when ſeveral hundreds of acres are to be planted in one ſeaſon, which is frequently the caſe at preſent in Scotland.

He adviſes that the plants may be removed at two years old, from the ſeed bed to the place deſigned for their future growth; if it be a bare heath or ſhallow moor, not productive of coarſe graſs or ſtrong weeds, they will ſoon get above the heath, if only their tops appear when planted.—On ſuch ground, no holes need be made, a long narrow ſpade, with a ſtrong foot-hold on one ſide, is forced as deep into the ground as the foot can preſs it, and as it is drawn gently out, a little plant is ſlipped into the opening before or behind the ſpade as moſt convenient, by a boy who carries the plants in a little baſket, with wet moſs on them; but if the weather is dry or windy,

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it is the better way to have the plants brought into the field in a veſſel of water, in which earth has been mixed to the conſiſtence of pap, from which ſmall parcels of ſeedlings may be taken out as they are wanted.

After the plant is inſerted in the cleft made by the ſpade, the ground is preſſed cloſe about it with the foot, and nothing further is neceſſary to the work, which may be performed at the rate of one ſhilling per thouſand; a man with his two little attendants planting two thouſand in one day with great eaſe.

As the author computes the number to an Engliſh acre, it would take juſt ſeven thouſand eight hundred and forty to an Iriſh acre, to have the trees at three feet every way from each other.—This I allow to be a great number, more than twice what I have ever known to be planted: but the Author aſſerts, if nothing but Scots fir is intended in the plantation, they ſhould not be at a greater diſtance, not only for the purpoſe of affording each other ſhelter on bleak expoſures, but as it is the excellency of the fir for timber to grow ſtraight and tall as poſſible, free from knots, and nearly of equal thickneſs from top to bottom, to all which, thick planting certainly contributes: in this, he ſtates we are directed by Nature in the growth of the wild fir, which frequently ſtands much cloſer together than is here required; yet when old, they produce maſts of prodigious length, of the fineſt grain, and free from knots: Their cloſeneſs and ſtruggle to get their tops to the air, conducing to their height and even growth, whilſt their near approach cauſes their ſuperfluous ſide branches to die, and the rubbing of one tree againſt another, as agitated by the wind, diveſts them of the little rotten ſtumps; the place where they grew is ſoon covered over with a firm wood, and the ſtem becomes ſmooth, encreaſing by ſuperadded growths without the mark of a branch having ever been on it.

That the beſt foreign timber has thus been produced, appears from comparing its grain with what we raiſe in a different way; the latter being ſuffered to grow in an open ſpace, without any thing to interrupt the ſide ſhoots, ſoon becomes a broad headed buſh: the ſide branches being often as ſtrong as the middle ſhoot, and the bottom of the ſtem conſiderably groſſer than the upper part, and through the whole a mere conjunction of knots.—The former on the other hand nearly of an equal ſize throughout, free from knots, and of ſo fine a grain or reed, as the workmen call it, (which is in fact, no more than the annual encreaſe of growth) that it is ſcarcely to be diſtinguiſhed by the naked eye: but has by the help of a glaſs, been counted to the ſurprizing number of four hundred Lamina in the ſpace of one foot, plainly indicating that the tree muſt have taken at leaſt two hundred years to come to that ſize.

The cloſeneſs of their early growth he alſo aſſerts has a tendency to produce more heart or red wood in a given time, which is the criterion of the merit of this timber, at the time of felling.

What an encouragement is here held out to the cloathing of our nearly barren mountains with this uſeful tree, when the ſlowneſs of its growth in the diameter of its ſtem, tends to its perfection; and where the neceſſary cloſeneſs in the beginning would afford ſuch thinnings, as in many parts of Ireland would produce a moſt profitable and ſpeedy return.

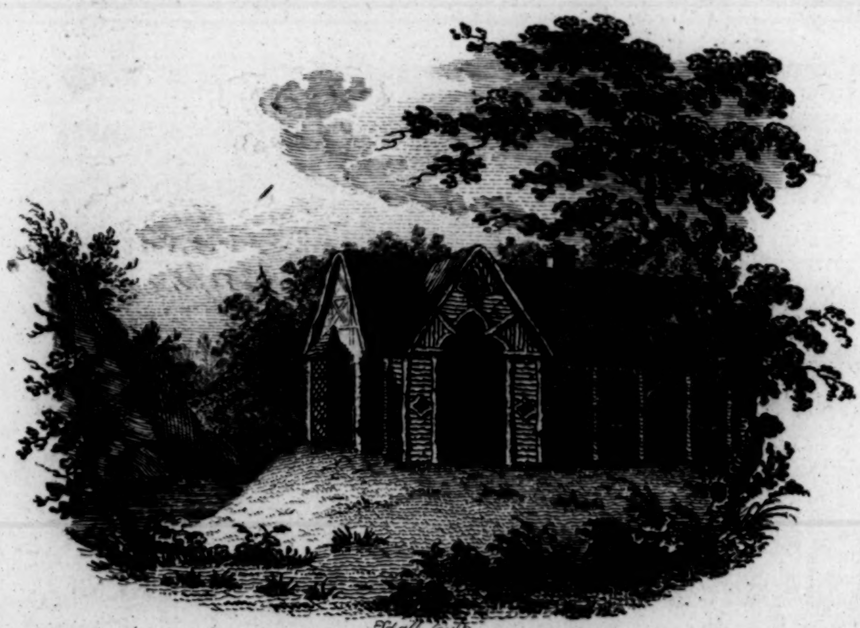
Spruce fir may be planted at once from the ſeedling-bed, in the manner directed for the Scots, except that they need not be planted ſo cloſe, and ſhould not be removed until *three* years old; but as this tree bears removal very well at any ſize under four feet, and is not of ſuch general uſe, nor ſo well ſuited to the ſoil of Ireland in general as the former, I think it had better be once tranſplanted in the nurſery.—Silver fir, is of ſo ſlow a growth for the firſt three years, that it can never be propagated but by tranſplantation; when it is two or three feet high it removes with great ſucceſs, and on a ſtiff ſtubborn ſoil, where other evergreens ſcarcely make any progreſs, I have known this beautiful tree grow to great perfection; it will bear the ſea air, and a very bleak expoſure; but it amply repays the advantages of a milder ſituation: two of thoſe in a valley in a deep ſandy ſoil at Mount-Uſher, in the county of Wicklow, meaſuring twelve feet round at ſix feet from the ground, and were above a hundred feet high many years ago.

Forteſcue aſſerts the advantage of planting Weymouth pine in *Woodlands*, at once from the *ſeed bed*; and from my own experience, I can vouch the ſucceſs of this practice: of one hundred planted in the county of Wicklow, from the ſeed bed, about twenty years ago, ninety-eight remain, many of them above forty feet high, and meaſuring from thirty inches to four feet four inches in circumference; they were three years old when tranſplanted.

It is not, however, eaſy to aſcertain the ſoil in which the different ſpecies of fir make the greateſt progreſs; thoſe diſpoſed to run down-wards like the Scots, ſilver fir, and pinaſter, will grow on the tops of dry banks, or narrow double ditches; but I have never known a ſpruce fir, or Weymouth pine to thrive in ſuch ſituations.—Shelter, and I believe a mellow ſoil are requiſite to bring the latter to perfection: thoſe I have before mentioned grow in ſuch a ſoil, with a ſubſtratum of looſe red earth to a great depth.

I ſhould have ſaid the ſame of the ſpruce fir, (as ſeveral I have on that kind of ground, have made a moſt rapid progreſs, many of them being more than four feet ſix inches in girth, at twenty-five years from the ſeed) had I not ſeen remarkable fine trees of this ſpecies in very different ſoils, thoſe, for example, at Gloſter in the King's county have grown to the greateſt perfection, in a black peaty moor, over a ſtiff gravelly clay remarkably ſteril: Thoſe at Ballykillcavan, in the Queen's county, were moſt beautiful, before an improving gardener cut off all their weeping branches ; they ſeem to grow on a dry limeſtone gravel, and Boutcher ſpeaks highly of the merit of the ſpruce, as ſuited to hungry deep *till* and *clays*, where he aſſerts they would in a ſhort time change the cold and gloomy appearance of ſuch inhoſpitable tracts of land : but whatever may be the ſoil, its roots ſeem to demand room to ſpread on the ſurface, nor ſhould thoſe trees be ſuffered to continue cloſe together for any length of time ; they have a natural inclination to grow ſtraight and upright, and do not require to ſtand ſo thick for the purpoſe of improving their timber, as is recommended for the Scots fir : When they have not been judiciouſly thinned, I have known whole groves of fourteen years growth ſuddenly decay, to the great diſappointment of the planter, and diſcredit of this beautiful tree, which by proper attention might have been preſerved in full vigour. It is an indiſputable fact, that the timber when of a proper age, and ſuffered to ſtand 'till the knots have been covered for the ſpace of eighteen or twenty feet, is excellent

cellent for every purpoſe to which white or yellow deal is applicable; and every planter muſt allow, that in whatever ſoil it agrees with, no tree can produce a ſpeedier or more effectual ſhelter, whilſt at the ſame time by its lively verdure, cloſe foliage, and pictureſque diſpoſition of its weeping branches, (circumſtances always to be obſerved when the tree is in a perfect thriving ſtate) it is peculiarly adapted to ſeveral purpoſes of rural decoration.



J. Hall ſculp.

AVONDALE WOODHOUSE
Deſigned &c by S:H.

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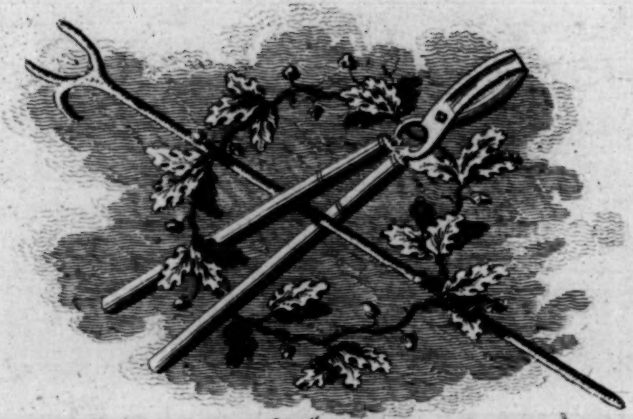

Eſdall ſculp

ON

PRUNING,

AND THE MANAGEMENT OF

WOODS.

HAVING now gone through the taſk I originally propoſed, of comparing the works of the moſt approved Authors on the ſubject of planting, with the reſult of my own experience, and adapting as much as lay in my power the variety of directions they contain, to the ſoils and ſituations for which they appear to have been reſpectively intended ; I ſhall offer a few obſervations on the management of plantations of *ſome years* ſtanding, when the care and attention which has been beſtowed on them at the time of planting, ſhall have produced that *luxuriant growth*, which, whilſt it gratifies the planter's wiſhes at the moment, would utterly defeat them in the end, if not ſkilfully directed and kept within proper bounds.—I ſhall not however greatly enlarge upon the ſubject of *pruning*, as excluſive of my wiſh to give this little treatiſe the merit of being *conciſe* at leaſt, if it ſhall lay claim to nothing more, I have not found thoſe contradictions in Authors with reſpect to that branch of the planter's art, which are to be obſerved in moſt others; it being univerſally admitted, that the heavy uſe of the knife or ſaw on the ſide branches, though prevented from being injurious by the admiſſion of froſt or rain, as certainly may be done by the ſkill of the workman and application of Mr. Forſyth's and other compoſitions, ſtill tends to weaken the *ſtem*, and encreaſe the head ſo as to make the tree *top-heavy*; and thus either looſens the root or produces in the future timber what the Engliſh woodmen call windſhakes, whilſt on the other hand the neglect of cutting off in time the ill placed luxuriant branches, permits improper boughs to take the lead, and fills the timber with unſightly knots; the want of timely thinning has the ſame effect on a plantation, which too ſevere pruning of the ſtem produces, the plants in both caſes being drawn up to weak ſlender poles. On the whole, no better general rule can be given than that, of never ſuffering any part of a tree to interfere with its neighbour for a *ſecond ſeaſon*. By this rule judiciouſly applied, you may continually extend your plantations, whilſt they are compoſed of trees *young* enough to bear *tranſplanting*. At a more advanced age, the ſaw and long-handled pruning ſheers will be found to be very uſeful inſtruments; but if after this, they ſtill ſtand too cloſe together, the *axe* muſt do its office, taking care at the ſame time, that the falling of one tree does not injure another, which is beſt prevented by a careful labourer attending on the *feller*, with a long pole, whoſe top is furniſhed with an iron fork and a hook on one ſide of it, by which he either draws the falling tree towards him, or puſhes it off, ſo as beſt to keep clear of the branches or ſtem of thoſe trees which are deſigned *to remain*. A conſiderable profit may thus be made of our plantations or coppice woods, even of a very few years growth, and both may in time be converted into open groves, where the branching heads of well grown healthy timber trees, at thirty feet aſunder, ſhall afford more ſhade and ſhelter, than ten times their number ſuffered to crowd each other, in the ordinary method of management; the *over-ſtands* here injuring the underwood, only as the former gradually arrives at perfection; thus warm and ſheltered by their cloſeneſs when young, and thinned from time to time as they want room, they never become *hide-bound* or *rampiked*, but will at the ſecond fall of the coppice-wood, be worth three times at leaſt, the purchaſe of the fee-ſimple of the ground they occupy, after repaying the ſum they might have ſold for at the time of reſerving them with intereſt, and alſo the loſs the underwood may have ſuſtained by their overſhading it; as it ſhould always be taken into conſideration, that the value of an oak under twenty-five years growth, bears no ſort of proportion to that of one of fifty: A fine ſaplin of the former age, not being worth more at this day than half a crown at moſt, (the bark included,) whilſt I have known oaks of the latter to ſell from twenty to thirty ſhillings each, and in ſome inſtances as I ſhall ſtate hereafter for nearly double that ſum.*

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* From my own experience, and the beſt information I can procure on the ſubject, the following is a fair eſtimate of the value of oak of different ages in the county of *Wicklow*, and I believe it will not be found to vary much in other parts of the kingdom.

An acre of coppice wood from twenty to twenty-five years growth, in which there are no reſerves from a paſt fall, may be worth *thirty pounds*.

It will require twenty-four ſuch trees as uſually compoſe a coppice of that age, and which has not been regularly thin'd, to produce on an average, a barrel of bark of twelve ſtone, worth in ſummer 1793, *fifteen ſhillings*, which was then conſidered very dear. The poles of ſuch a coppice ſell from *four* to *ſeven ſhillings* per dozen.

One tree of fifty years growth, will produce a barrel of bark. The timber of ſuch a tree is worth from *twelve* to *twenty ſhillings*.—A tree of ſeventy-five years growth may be worth from *four* to *ſeven pounds*, according to its form, and the demand for the particular timber it contains; the more *crooked* in general the more valuable.

From hence we may fairly make the following calculation, *viz.* that an acre of coppice wood of twenty-five

THIS great diſproportion in the value of trees of different ages, throws a ſtrong light on that part of my ſubject, in which I confeſs I am on every account,

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five years growth, in which eighty of the beſt young oak are now marked as reſerves, and the remainder felled this year, will in twenty-five years, (inſtead of *thirty pounds*, its utmoſt value at preſent,) be worth *one hundred and ten pounds* at leaſt, after allowing *ten pounds* for the injury theſe reſerves or overſtands may do to ſome of the coppice wood.

Now, ſuppoſing forty only of theſe reſerves to be felled at the expiration of twenty-five years, and forty of the new growth to be then marked to ſupply their places, the value of the ſecond fall, *viz.* in fifty years from this year, might be eſtimated as follows, at the loweſt calculation:

	£.	s.	d.
The coppice wood, - - - -	20	0	0
Forty reſerves of fifty years growth, at one guinea each, - - - -	45	10	0
Forty ditto, of ſeventy-five years growth, *five pounds* each at an avarage. - -	200	0	0
	£ 265	10	0
Add to the above the value of the firſt fall, deducting forty guineas for forty of the fifty year old reſerves, which are ſuppoſed to be ſtill left at this fall, - -	64	10	0
The value of the acre in fifty years, will then amount to - - - -	£ 330	0	0

And

account, moſt intereſted, viz. the the management of natural woods or plantations, at the time when they are in general conſidered *fit for fel-*

And this great encreaſe of the profit of our woods, obtained ſimply by the allowance of *four pounds* per acre, at the firſt ſale of the coppice, out of its preſent value, that being the average of what the wood-buyer could demand, for leaving eighty reſerves on the acre, and often much more than he would charge, as he is thus ſaved the expence of manufacturing them. I well know, that the *lovers* of *money,* which I am ſorry to ſay, is a term too often ſynonymous to the *enemies* of *Timber,* will aſk, what might be made of *four pounds* put out to intereſt in fifty years? I will allow for argument ſake, though I am ſure it is four times more than any of my brother planters, or wood-owners have ever made, or are likely to make of it, that by *compound* intereſt, it may arrive to the enormous ſum, in proportion, of *one hundred and twenty-eight pounds*; but even that deducted from *three hundred and thirty pounds*, leaves a ſum of *two hundred and two pounds* net profit by the acre, and that gained not by inceſſant toil, anxious parſimoney, and ſubject to perpetual riſque, but with certainty, in a great meaſure without the leaſt exertion, and I might ſay, without the neceſſity of even a *thought* on the ſubject, if not entered into for our own gratification and amuſement; when we ſhall have the pleaſure of finding in this mode of managing our woods and coppices, that what in the end muſt prove *ling*; and here I muſt obſerve, that few things have been more prejudicial to the landed intereſt of Ireland, than the abſurd opinion adopted about forty-years ſince with reſpect to woods, *viz.* that wherever a wood was *felled*, it was uſeleſs, if not detrimental, to leave a *ſingle reſerve*, and that no ſhoot from a tree, once cut down, could ever grow to *timber*.

This ill founded theory ſtripped whole counties at once, both of their ornament and ſhelter: whereas a judicious *thinning-fall*, repeated from time to time, wou'd have kept up that appearance of woodland which we remark in almoſt every ſhire in England; and would at the ſame time have produced within a very few years, as is already ſtated, an infinitely greater profit than the advocates of a *general fall* could ever hope for, at their higheſt calculation, and even with com-

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prove a ſource of wealth to our family, contributes in the meantime, to ſome of the moſt refined and rational enjoyments of life, whilſt in the words of the truly paſtoral Shenſtone,

We "*Call forth refreſhing Shades, and decorate Repoſe.*"

pound intereſt to aſſiſt them, as may evidently appear from the ſtatement in the preceding note.

We find among other pieces of valuable information, for which we are much indebted to the intelligent author of " Minutes of Agriculture and Planting, in the midland Shires of England," that four acres of oak in Warwick-Shire, of about ſixty-four years growth, has paid already by various thinnings above *four hundred pounds*. That the reſerved timber trees, (which are now conſidered as ſtanding too cloſe) are worth from twenty to twenty-five ſhillings each, the ſoil a hungry deep clay, of no greater value than *ſeven ſhillings and ſix pence* per acre.

Now, ſuppoſing the over-ſtands at this time to be only forty on each acre, and taken at the loweſt valuation, viz. twenty ſhillings each, the return of the acre from paſt falls, and preſent value of timber, amounts to *one hundred and forty pounds*, and would on the *Iriſh* acre in ſimilar circumſtances, amount to *two hundred and ten pounds*, which at *ten ſhillings* for the value of the land, (a rate at which many thouſand acres capable of producing valuable timber, might be rented in this kingdom), is *four hundred and twenty* years purchaſe and that within *ſeventy* years at moſt. †

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† It gave me great pleaſure to find that the calculation I had made of the value of an acre of wood, properly managed, with well choſen reſerves, amounting at the third fall to the net ſum of *two hundred and two pounds*, ſhould be ſo ſtrongly ſupported by the above return, of the actual produce of the four acres in Warwickſhire; in addition to which, I find in an ingenious treatiſe communicated to the Secretary of the Bath Society, by a gentleman in Norfolk, that a particular oak, which meaſured in 1768, ſeven feet eight inches round, in 1771 was eight feet, and in 1790, was ten feet in circumference: from this he argues, that after the firſt twenty-five or thirty years, no tree grows faſter than the oak, in a ſoil properly ſuited to it; extending yearly about one inch and one-third in circumference; but this growth cauſing an encreaſe in the quantity of timber in *a geometrical proportion.* So that admitting, in 1768, that the tree contained one hundred and ten feet of timber, in 1790, it contained two hundred feet; thus encreaſing ninety feet of timber in twenty-two years.—This proves to demonſtration, the great progreſſive value of oak from fifty to one hundred years ſtanding: after *that age* I am not enabled to determine, whether or not they attain any conſiderable encreaſe either in *bulk* or *value.*

As to the danger of the reſerved trees decaying, there is not the leaſt room for apprehenſion, if not left *too thin* at the firſt fall, or injudiciouſly marked out of ſuch trees, as have grown in *thick cluſters*, in preference to thoſe that have ſtood *ſingle* for ſome time, and gained an aſcendancy over the ſurrounding plants. Every copice wood contains a ſufficiency of ſuch trees as thoſe latter, to be made choice of for *reſerves*; and as to their future growth, it is now inconteſtably proved, that ſome of the fineſt trees which England has produced, have ariſen from old ſtools. I have in my own woods, an oak of this deſcription, growing in two ſtems from the root, which is worth at leaſt twelve guineas, and there is another in the domain of Ballybeg, in this neighbourhood, which meaſures round the forked trunk upwards of *twenty-ſeven* feet, round one of the ſtems *twenty* feet, and round the other *twelve*, and is groſs timber for more than *forty* feet in height, as we ſhall ſee more particularly hereafter.

This laſt has the honour of being one of the few remaining trees of thoſe woods, which rendered the barony of Shillela, in the county of

Wicklow, proverbially famous for its timber, and gave the denomination of *Fairwood-Park* to that diſtrict in which the great, but unfortunate Earl of Stafford built his hunting-lodge. His deſcendant, Earl Fitzwilliam now poſſeſſes this eſtate, from whoſe liberal attention to whatever may in any way promote the benefit of this country*, and from the excellent ſyſtem adopted by the gentlemen who have the preſent management of his Lordſhip's woods, I flatter myſelf that poſterity may ſee Shillela as remarkable, for timber in the next century, as in the laſt, when its oak, if we may judge from the ſpecimens which ſtill remain, was as ſuperior to moſt others in the firmneſs of its texture, as in its ſtately height and great dimenſions. An inſtance of the latter has fallen within my knowledge, too remarkable to be paſſed over in a treatiſe, which profeſſes to enforce the important object of reſerving a certain portion of our woods, for the uſe of poſterity.

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* His Lordſhip has expended within theſe two years, above 4000l. in building a Hall for the ſale of coarſe woollen goods, which are made to great perfection in the neighbourhood of Rathdrum. He might have been aſſiſted by a large ſubſcription in this truly uſeful work, but generouſly determined to carry it on, at his own expence.

Some years ſince the late Mr. Siſſon, who was employed as a maſter-builder, under the ſurveyor-general of public works, having laid out conſiderable ſums in the purchaſe of timber on the Shillela eſtate, was deſired by the then agent to chuſe one tree for his own uſe, as a compliment to him for the preference he had given to thoſe woods in the courſe of his employment. He made choice of an oak, which though *forked* from the ground, was of ſuch dimenſions that each ſtem was groſs enough for a *mill-ſhaft* at more than *fifty feet* from the but. Two pieces were appropriated to that uſe, the remainder he ſawed into very thin pannels, which ſold from the ſaw by meaſurement, for upwards of 250*l*. He might have taken a larger tree, but prefer'd this, on account of the ſtraightneſs of the ſtem and clearneſs of the grain; from which circumſtances, and its being *forked* from the ground, there is the utmoſt reaſon to believe, that this great maſs of timber proceeded from the root of a tree which had once been felled, though in all probability at *no advanced* age.*

But ſuppoſing that the poſſibility of having a fine growth of timber from the *old ſtools* could not be as fully proved, as it is now allowed to be, in the opinion of ſeveral of the moſt experienced perſons, in the management of woods: What is there to prevent a ſufficiency of *ſaplins* from the *acorn* which are to be found in almoſt every coppice, from coming to the utmoſt perfection, if ſuffered to remain and carefully attended to? I have ſeen ſuch ſaplins promiſing to ſupply the *requiſite quantity of future timber*, though every tree in the coppice which had once been felled, ſhould be cut again at every fall. The loſs to ſeveral eſtates by this indiſcriminate deſtruction of the *entire growth* at every twenty or twenty-five years as *mere underwood*, is not to be conceived by thoſe who have not had experience of the advantage reſulting from a contrary practice. I am happy at being able to confirm what I advance by a very ſtrong inſtance, in my own neighbourhood. An eſtimate was made in one thouſand ſeven hundred and eighty-ſeven, by the direction of Colonel Symes, of the value of his woods, at Ballyarthur, near Arklow. The timber ſtands on about one hundred and forty acres, excluſive of ſome hedge-rows; the oldeſt trees did not much exceed one hundred years growth, and of theſe there were

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* I have the ſatisfaction of finding this ſtatement of the great value of the tree felled by Mr. Siſſon, ſupported by the accurate return of the produce of the Langley oak on the verge of the new foreſt in Hampſhire, with which Mr. T. South, of Baſſington, has favoured the Bath Society.

The tree was felled in the year 1758; its branches, which contained knees fit for a firſt rate ſhip, extended forty feet on every ſide; its trunk which was about twenty feet high, meaſured twelve feet diameter at the ground, and ſix feet at the top; the contents of the whole amounted to thirty-two load of hewn timber, which at half-a-crown per foot, produced preciſely *two hundred pounds.*—It is ſtated by Mr. South, that an oak of ſixty years growth, will in twenty-four years from that period, double its contents of timber, which I conſider a very valuable piece of information.

but

but few: the ſecond rate had ſtood about eighty years, and the youngeſt over-ſtands about fifty; the reſt were mere coppice wood, but which had grown in general pretty well under the reſerves; an evident proof that theſe latter ſtood at a conſiderable diſtance from each other, and did not nearly occupy the whole of the ground; the preſent Proprietor's father freely cut the underwood at *ſtated periods*; religiouſly reſerving the old timber, or an adequate quantity of the beſt of the young growth, to ſucceed ſuch overſtands, as were occaſionally felled for particular purpoſes: This ſelf-denying attention to his timber, which from the habit of managing woods in that neighbourhood, in a very different manner, was looked upon at the time, as rather *injurious*, than *advantageous* to his property, and the reſult of whim rather than of judgment, was amply repaid to his family, when, a very few years after his death, on the eſtimate above mentioned, the woods on the domain were valued to *fourteen thouſand five hundred pounds*, at which rate, the valuator offered to become a purchaſer of the whole or any part. From the abſence of Colonel Symes at this * moment in the ſervice of his country, as indeed has been the caſe during the greater part of his life, I am unable to ſtate the particular value of each of the former falls, † but I have ſufficient grounds to aſſert, that at the time of making the above valuation, the wood which had been felled on the domain within fifty years, had produced three times the value of the fee ſimple of the ground it occupied.

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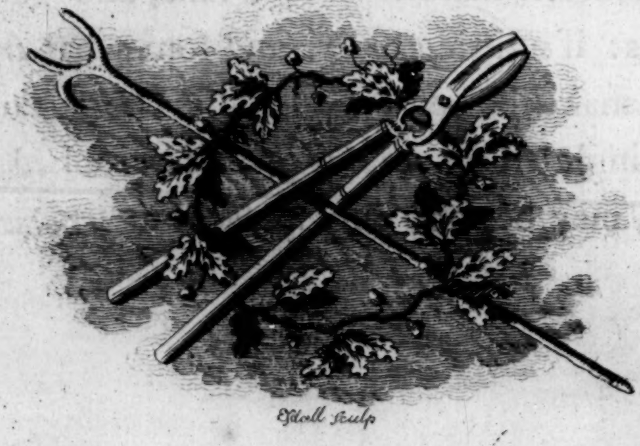
* At Newport in Flanders, when this was written.

† It will be a pleaſure to the lovers of old timber, to learn, that there ſtill remains on the eſtate above *ten thouſand pounds* worth of wood, not likely to be cut till an ample ſucceeding growth ſhall give full ſanction to its fall.



NOR need the planter wait the regular returns of his coppice woods, for the reward of his attention, it may be almoſt daily repaid him by a ſkilful management. The judicious woodman, whilſt he leaves the beſt of each ſtool for future uſe, knows how to turn the ſmalleſt branches to advantage; the thinnings of our coppices, or of our plantations, which have run up too much for tranſplantation, anſwer according to their ſize for ſeveral purpoſes of rural oeconomy; for building, partitioning, and roofing farm houſes or cottages, for railing, upright paling, or ſtakes for hedges: Birch and alder of the ſmalleſt ſize will ſell for the chairmakers uſe; if larger, they are uſed for cart ſaddles, ſoals for pattens, and heels for women's ſhoes, the demand for which is often very conſiderable.

Slender aſh poles are valuable for hoops, ſpade, and pitchfork handles, rakes tails, and garden eſpaliers: if a little *groſſer*, and ſomewhat *crooked* they make the beſt plow handles, horſe hames, and ſwingle trees, and if ever ſo crooked and knotty, may be, not only *uſeful*, but *ornamental* in

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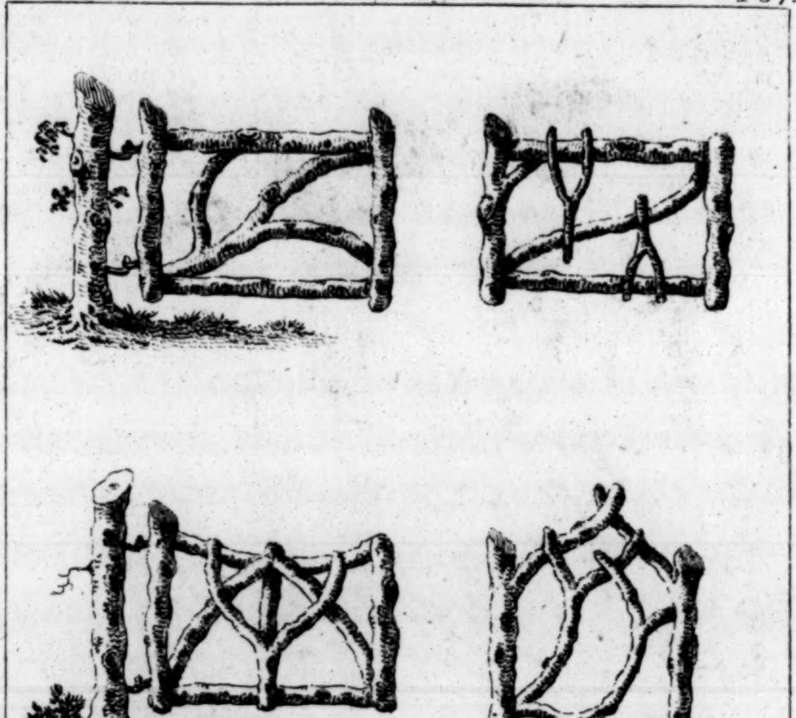
Plate II. P 87.



in ruſtic buildings, gates,* and paling. The ſallow is not only adapted to the above purpoſes, but from its durability and lightneſs, is particularly excellent for making ſheep bars, or moveable fences, uſually called in England ſlatted hurdles; † if too ſmall for that uſe, it may be wrought up as well as the hazel into hoops, laceing of ſtake hedges, or binding for their tops, as the rim of a baſket is uſually finiſhed, which will make them laſt ſeveral years; ‡ they are uſed alſo for cloſe wrought hurdles for penning ſheep, or into a ſort of net-work hurdle for that purpoſe, very light and durable when well made, of which I have given a ſketch, as not being much known in this kingdom. The ſmalleſt ſallow and hazel anſwer for baſkets, or to form little cribs or low ſheep racks, preferred in many parts of England, to thoſe of a more expenſive conſtruction, as being free from two imperfections, viz, that of *cauſing the graſs ſeed* to fall into the *ſheep's wool*, and producing a cold draft of air, to the *legs* and *breaſt* of the animal, where they are moſt ſuſceptible of injury from the weather.*

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* *Vide* Plate II. and IV.

† *Vide* Plate III. Fig. 1.

‡ *Vide* Plate III. Fig. 2.

§ *Vide* Plate IV. Fig. 1.

The thinnings of our *oak woods*, though leſs durable than any of the preceeding when cut young, and in full ſap, which is always the caſe from the value of the *bark* at that time, are not only of uſe for moſt of the purpoſes before mentioned when ſtraight, but if a little crooked, are to be preferred to any others for poling of hops, whoſe bells ripen better on vines which hang looſely from three ſuch poles, at the uſual diſtance at bottom, but with their tops bending *outwards*, than when ſtraighter and ſmoother timber is uſed for the purpoſe.

If very *crooked* and *knotty*, they may be wrought up like the cankard aſh before-mentioned, unto ſeveral ſorts of paling, ruſtic gates, ſeats, wood-houſes and other pictureſque buildings, ſuch as the few deſigns annexed, may give ſome

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* *Vide* Plate III. Figure 3.

Plate III. P. 88

Fig. I.

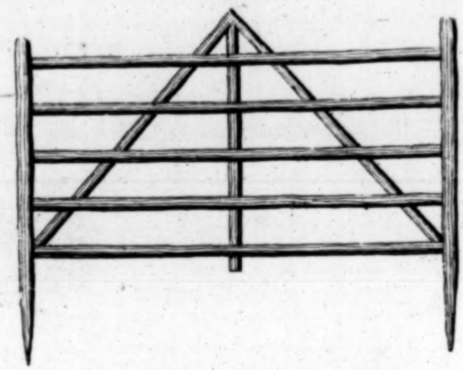

Fig. II.

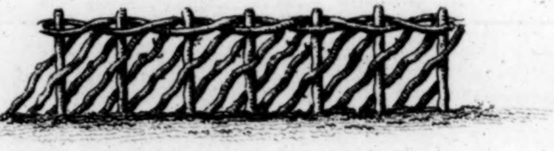

Fig. III.

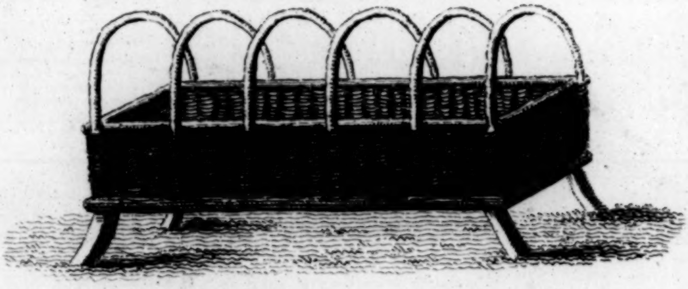

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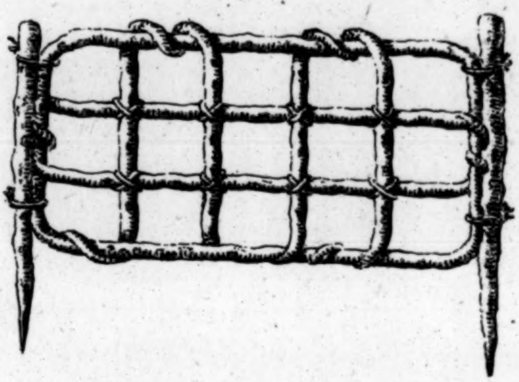
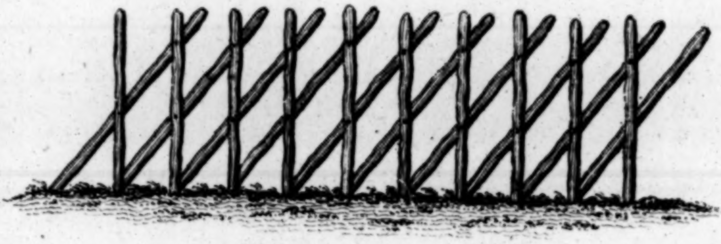
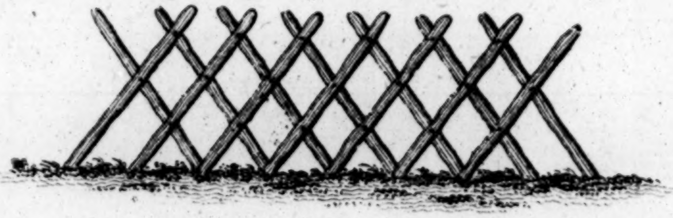
Plate IV. P. 89

Fig. I.







idea of; † the laſt purpoſes to which I think the thinnings of plantations and coppices to be applied to, is firewood and charcoal, though the latter is a very ſaleable commodity; it is on the whole the leaſt deſirable uſe to which timber can be converted, as no country ever ſo well wooded, can long ſtand the depredation made by furnaces, which are to be ſupplied with wood alone as their conſtant fuel.

Thus what we thin out of our woods or coppices of every ſize and ſhape, may be converted to uſeful purpoſes, with conſiderable profit at the preſent, and at the ſame time to the advantage of the future growth, as I may venture from experience to affirm, that the oftener a thick coppice is judiciouſly thin'd, the greater will be its value in twenty-five years, at which time I ſuppoſe the whole to be fell'd, except the *reſerves* for future timber.

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† *Vide* Vignette.

The number of theſe muſt in a great meaſure depend on the circumſtances of their paſt growth, and the expoſure of the ground on which they ſtand; if they have not grown well and are in a bleak ſituation, about *one hundred* ſhould be left on the acre, but if their growth has been advanced by proper thinning, a greater ſhelter or a richer ſoil, *ſixty* or *eighty* will be fully ſufficient.—This quantity to the Iriſh acre coincides very nearly with what Mr. Evelyn directs ſhould be left on the Engliſh, in order to maintain a conſtant ſucceſſion; viz. four of the beſt growth, fourteen ſecond beſt, fourteen thirds, and eight wavers or young ſaplins; and ſo attentive were our Engliſh anceſtors to inſure a proper ſupply of timber, that the proprietors of woods were compelled by the ſtatute of the thirty-fifth of Henry the Eighth, to leave twelve of the beſt *ſtandrils* on every acre of coppice at each fall, together with a due proportion of a younger growth for ſucceſſion; and were, at the ſame time reſtricted from cutting any of the former, 'till they ſhould meaſure *forty* inches in circumference, at five feet from the ground.*

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* It is to be regretted that ſimilar regulations with reſpect to woods were not enacted in this kingdom, at the time of the introduction of the tenth of William the Third, which as the preamble ſets forth, was intended to provide againſt the great waſte of timber, cauſed by the ravages of civil war, and the introduction of iron forges and furnaces. This ſtatute for enforcing the annual plantation of a certain number of trees, in proportion to the ground which each proprietor occupied, was not attended with the good conſequences expected, and which the above regulations would in a great meaſure have produced; as the ſeveral circumſtances of ſoil and ſituation, together with competent ſkill, and continual attention, which were all requiſite in one caſe, by no means applied to the other. That ſuch regulations were wanting is a melancholy truth, too evident to every perſon who travels through this kingdom, and conſequently ſees what tracts of wood have been laid waſte by tenants for life of all deſcriptions, who ſo far from leaving *reſerves*, are ſeldom at the pains even of fencing up the young coppice, for the advantage of their ſucceſſors.—Amongſt many other inſtances, I am ſorry, I am obliged to ſtate, that I have been eye-witneſſes to the fall of nearly two hundred acres of beautiful well growing oak, in a romantic valley, on the fee lands of

To be enabled to purſue this excellent method, the utmoſt care ſhould be obſerved in felling coppices in ſuch a manner, as may enſure

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of Glandelough in the county of Wicklow, *three times* within the ſpace of *twenty-four* years—the produce of each ſale to the ſeveral Archbiſhops never exceeded one hundred pounds, and as I am informed, amounted once only to *fifty pounds*, or *five ſhillings* per acre for a coppice, which had it only been preſerved for the ſame number of years, though not containing a ſingle *reſerve* of a former growth, would have produced *thirty pounds* per acre at the loweſt valuation, or *ſix thouſand pounds* in place of *fifty*.

I am far from wiſhing that any individual or body of men, and leaſt of all at this time, that the *church* ſhould be deprived of the ſmalleſt portion of their rights and property, but I am certain, that means might be deviſed to remedy this evil, without any ſuch conſequence : the value of thoſe woods, which belong to tenants for life, corporate bodies, &c. and ſuch as are not fit for a *general fall*, might be taken at *ſtated periods*, and the amount of the whole, or ſuch reſerves as ſhall be required to ſtand, together with intereſt from that time, charged on the *ſucceſſor*, whoſe future property may be conſidered as ſo far *mortgaged* for the diſcharge of that ſum in the firſt inſtance.—The tenant for life, in this caſe, can be no *loſer*, ſure a ſound and perfect growth from the ſtools, and ſuch as might hereafter afford a choice of young trees for future reſerves, if there ſhould not be found a ſufficiency of *ſaplins from the acorns.*—There is a wide difference of opinion on this ſubject; I have known ſome owners

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loſer, whilſt the ſucceſſor and the nation at large, will be benefited by a valuable growth of timber, and that in a degree ſo diſproportionate to what can ariſe from the ſale of ſuch miſerable premature falls as I allude to, that I ſhall be pardoned the warmth of expreſſion by all lovers of timber, and the improvement of their country, when I aſſert, that a contrary conduct tho' continued for ſo many years, could only have originated in the *groſſeſt ignorance, and unenlightened avarice*; at the ſame time, I have the pleaſure of obſerving, that the late act, which gives to the *tenant* the profit of ſuch woodland on his farm, as he may fence up for coppice at his own expence, ſubject to certain reſtrictions, has been attended in many places with all the advantages expected from the meaſure; amongſt other inſtances, a very conſiderable tract of the above woods of Glandelough, have been fenced up from cattle by James Chritchly, Eſq. a tenant of the See of Dublin, with the preſent Archbiſhop's approbation, and the wood is now in a fine growing ſtate.

owners of large tracts of wood, and great lovers of timber, who have cautiouſly prohibited the ſtripping of bark off their oak nearer than *ſix* inches to the ground, about which ſpot they ſuppoſe the tree to be felled, whilſt others wiſh to have the bark ſtripped as near the ground as poſſible, provided that in ſo doing, there is no part whatever of the root laid bare.

I profeſs to be of the laſt opinion, and think the advocates for the former method, would on cloſer inveſtigation, ſave themſelves a deal of unneceſſary trouble to little purpoſe at beſt, if not to their conſiderable injury; as it muſt be evident to any perſon, who will give himſelf the trouble of examining the growth of a ſhoot from an old ſtock, that ſo long as the ſap has a portion of bark to aſcend through, the ſhoot is not forced out; but at laſt makes its appearance at ſome inches above the ground, on the ſide of the old ſtub, and often in a horizontal poſition; where if ſeveral weak ones are thus produced, they form an unſightly tuft of almoſt uſeleſs bruſh-wood; but if one by ſuperior ſtrength, or by the others being pruned away, ſhall take a lead, it muſt be by bending upwards at its baſe, like a breaſt quick in a ditch, with this difference in favour of the latter, that the one depends immediately on its own roots, whilſt the young oak has nothing to depend on but the ſhell of the old ſtub, which in this ſituation generally becomes rotten within ſide, and daily leſs and leſs able to give that ſupport, which the encreaſing weight of the young tree is daily more in need of: from this circumſtance, it happens, that we ſo often find ſome of our talleſt young oak, from ten to fifteen years growth, lying flat on the ground in our coppices, *ſlip'd off* as it were, from the old ſtool at the ſpot from whence they were produced; whereas if the bark had been ſtrip'd quite to the ground, and the tree then cut as low as poſſible with a ſharp axe, leaving the center of the ſtub a little higher than the edges, the young ſhoots muſt have ſprung up like *ſuckers*, quite free from the original ſtem, and often at ſix or eight inches diſtance from it, their buts being ſufficiently low in the ground to enable them to ſtrike roots for themſelves, and ſtanding at ſuch a diſtance from each other, that their growth may be perpendicular for ſeveral years without interference, and conſequently till they arrive at ſuch a ſize that the worſt may be felled for uſeful purpoſes, and the beſt *reſerved*, with nearly the ſame advantage as if it had been a *ſapling* produced from the acorn.

Esdall Sculp.

The better to explain what I have deſcribed, as the reſult of the different methods of ſtripping off the bark, I have added a ſketch of three coppice oaks,* two of them growing in the way we ſhould wiſh to prevent, and the third in ſuch a manner as to promiſe a good ſtock of coppice wood, or even future timber if properly thin'd, and attended to in its growth.

Senſible at the ſame time, of the bad conſequence of having any part of the root ſtripped of its bark, I have generally employed an intelligent labourer to attend the workmen, who *precede* the *fellers*, and whoſe buſineſs it is to take off that part of the bark, which would otherwiſe be chopped into uſeleſs pieces by the axe: he ſhould ſee that a cut is given all round the ſtem, juſt above the ground, which will ſtop the ſtripping of the bark at that ſpot; he muſt alſo take care that no injury is done to thoſe trees which are *marked* to ſtand as *reſerves*; this, with the ap-

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* *Vide* vignette preceding.

pointment of another careful perſon to watch that the fellers cut ſmooth, and do not leave the ſtub hollow in the middle, which is technically termed *diſhing* by the woodmen, will enſure a fine healthy growth; at the ſame time, by furniſhing this latter with a long pole as before deſcribed, by which he may draw towards him or puſh off the falling tree, ſo as beſt to eſcape the reſerves, we ſhall find the advantages will amply repay the expence of their wages; eſpecially as the ſeaſon of felling oak is confined to a few weeks in ſummer.

Though I know many valuable coppices at this moment, on which no farther care has been beſtowed than what I have above mentioned, and that of being carefully preſerved from cattle, without which no future growth can ever be expected, * Yet, I have little doubt, of the great advantage which might follow the application of Mr. Foreſyth's compoſition; eſpecially where it is found neceſſary to fell *one or more* plants off the ſame ſtool, on which we mean to leave a *reſerve*.

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* The vigorous growth of graſs during the firſt three years after the felling of a wood, renders a coppice a continual object of treſpaſs to every beaſt, and I may almoſt ſay, to every owner of a beaſt in its vicinity: along

The teſtimonies in favour of his practice are ſo numerous, and highly reſpectable, that I regret

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along with the graſs, they devour the young growth of trees; and the temptation of ſuch a quantity of paſtutage is ſo ſtrong, that it is hardly poſſible to find a coppice-keeper of ſufficient integrity to withſtand it.—A ſtout diſintereſted wood-ranger is a moſt valuable ſervant, and deſerves every poſſible encouragement: moſt owners of woods are much in their coppice-keepers power—I have known ſome weak enough to take the advice of a ſelfiſh knave, and fell all their woods without *reſerves*, leaſt theſe latter might *decay*; when the true motive for giving ſuch advice, was merely to avoid the *trouble* of having them under his care, and that there might be *more graſs* in the wood, in conſequence of the overſtands being cut down; others are aſſured, and implicitly believe it, that horſes do no injury to young trees, and in conſequence give their wood-rangers privilege to keep a few horſes in their coppices, of which they take care to avail themſelves to their own *great emolument*, and the *deſtruction* of their maſter's woods.

I have not had time ſufficient to enable me to recommend it from my own experience.

What I had made uſe of before I heard of Mr. Foreſyth's compoſition, when an application of that nature ſeemed neceſſary, was a ſort of Dutch grafting wax or mummy. Tho' the ingredients are more expenſive, and the method of applying it more troubleſome, yet as I have known it uſed with great ſucceſs on conſiderable wounds, given to peach, plumb and cherry trees,† and thoſe in the middle of ſummer, I ſhall copy the receipt for making it,‡ as well as that publiſhed

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† A few years ſince, a great maſtiff dog ſlip'd into my garden, juſt before the gardener quitted it for the night. The dog was no ſooner locked in, than the animal became impatient of his ſituation, and made inceſſant efforts to regain his liberty; the conſequence was, that in attempting during the whole night to get over a twelve foot wall, and faſtening his feet continually in the wall trees, as he fell back he tore ſeveral of them almoſt to pieces; they were at that moment in high bearing, and covered with fruit.—The gardener's feelings on this occaſion when he entered in the morning, may be eaſily conceived; there was no remedy, but patiently to prune off the broken branches, ſome of which were very large, and cover the wounds with the grafting

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ing wax above mentioned, they were ſoon healed, fine freſh wood was produced. and many of the trees are now in better order, than before the accident happened.

‡ Directions for making the Dutch Grafting Wax:

" Take one pound of common black pitch, a quarter
" of a pound of common turpentine, put them together
" into an earthen pot, and ſet it on fire in the air, hold-
" ing a cover ready to quench it with, which muſt be
" done ſuddenly, and repeated ſeveral times.—This pre-
" pared pitch muſt then have a quantity of bees wax
" added to it 'till it is of a proper conſiſtency.

" N. B. It ſhould be put on as warm as it can be uſed
" without injury to the wood or bark of the tree, on
" this fine ſand may be ſifted, which will prevent the Sun
" from having any effect on it."

Directions for the medicated Tar, uſed with great ſucceſs in dreſſing of the wounds of orchard trees, as communicated to the Society of Arts, &c. &c. in London, by Thomas S. D. Bucknell, Eſq.

" Take a quarter of an ounce of corroſive ſublimate,
" reduced to fine powder, by beating with a wooden
" mallet,

liſhed by Mr. Forſyth, ‖ and think there may be particular circumſtances where the appli-

cation

“ mallet, put it into a three pint earthen pipkin, with a
“ glaſs of ſtrong ſpirits, and ſtir it well together, till the
“ ſublimate is diſſolved : the veſſel is then to be filled
“ with common tar, and ſtirred ’till the whole mixture
“ is well blended.”—The above quantity is ſufficient for
dreſſing two hundred apple trees.

‖ Directions for making a Compoſition for curing diſeaſes, defects and injuries, in all kinds of fruit and foreſt trees, and the method of preparing the trees, and laying on the Compoſition, by Mr. William Forſyth, of Kenſington, as delivered in on oath to the Land Revenue Office Scotland-yard, London, the 11th of May, 1791 :

“ Take one buſhel of freſh cow dung, half a buſhel
“ of lime rubbiſh of old buildings, that from the ciel-
“ ing of rooms is preferable, half a buſhel of wood-
“ aſhes, and one-ſixteenth part of a buſhel of pit or river
“ ſand, the three laſt articles are to be ſifted fine be-
“ fore they are mixed ; then work them together with
“ a ſpade, and afterwards with a wooden beater, until
“ the ſtuff is very ſmooth, like fine plaiſter uſed for the
“ cielings of rooms.”

“ The compoſition being thus made, care muſt be
“ taken to prepare the tree properly for its application,

“ by

cation of one might be attended with advantages,

" by cutting away all the dead, decayed and injured
" part, 'till you come to the freſh ſound wood, leaving
" the ſurface of the wood very ſmooth, and rounding off
" the edges of the bark with a draw knife, or other in-
" ſtrument perfectly ſmooth, which muſt be particularly
" attended to; then lay on the plaiſter about an eighth
" of an inch thick, all over the part where the wood or
" bark has been ſo cut away, finiſhing off the edges as
" thin as poſſible: then take a quantity of dry powder
" of wood aſhes, mixed with one-ſixth part of the ſame
" quantity of burnt bones; put it into a tin box with
" holes at the top, and ſhake the powder on the ſurface
" of the plaiſter, till the whole is covered over with it,
" letting it remain for half an hour to abſorb the moi-
" ſture; then apply more powder, rubbing it on gently
" with the hand, and repeating the application of the
" powder, 'till the whole plaiſter becomes a dry, ſmooth
" ſurface.

" All trees cut down near the ground ſhould have
" the ſurface made quite ſmooth, rounding it off in a
" ſmall degree, as before mentioned, and the dry pow-
" der directed to be uſed afterwards, ſhould have an
" equal quantity of powder of alabaſter mixed with it,
" in order the better to reſiſt the dripping of trees and
" heavy rains.

" Any

tages, which could not ſo well reſult from the other.§

ON

" Any of the compoſition not uſed muſt be kept in " a veſſel, covered with urine of any kind, or the at" moſphere will injure the efficacy of the application; " where lime, rubbiſh of old buildings cannot be got, " pounded chalk, or common lime after being ſlacked " one month at leaſt, will anſwer.

" As the growth of the tree diſturbs the plaiſter on " the edges next the bark, that part ſhould be rubbed " over with the finger after rain, to ſmooth down the " plaiſter, and keep it whole, to prevent air and wet " from getting into the wound."

§ Where the application may be wanting to a torn root, or when it may be thought neceſſary to cover the ends of tender cuttings, the grafting wax ſeems more likely to anſwer the purpoſe, than Mr. Forſyth's compoſition. By the application of the wax to the ſmalleſt cuttings poſſible, and covering them with a cap glaſs, I have ſoon found them rooted plants: where they have been as large as a walking-ſtick, I have ſet them quite perpendicular, in a rich ſhady border, in which ſituation they have thrown out vigorous branches from the top, and the cutting has become a ſmooth ſtem. I have raiſed many handſomer plants of the common or Portugal laurel in this way, than ever I ſaw from the *berries* and that in one third of the time,as I plant the cuttings from three to five feet high.

GREAT ASH OF LEIX.

S.H. Del.

ON THE

MAGNITUDE, VALUE

And QUICKNESS of GROWTH of

SEVERAL

TREES IN IRELAND.

HAVING in the beginning of this little eſſay inſtructed the *Planter* to the beſt of my ability, in the different methods he may purſue for the attainment of a valuable growth of wood, and now inculcated to the *proprietors of woodland*, the abſolute neceſſity of attention to their trees and coppices whilſt young, and of *reſerving* a certain portion of the beſt grown plants at every fall, (if only for *their own* emolument not to mention the advantage of ſuch a proceſs to *poſterity*). I can in no way tages, which could not ſo well reſult from the other.§

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Such has been the waſte of timber in Ireland during the laſt century from the unſettled ſtate of the kingdom, and other cauſes, amongſt which we may reckon the introduction of iron forges and furnaces, that there ſcarcely exiſts in ſome diſtricts, a ſufficiency to favour the ſuppoſition, that we ever poſſeſſed a valuable growth; but from what I have ſeen I am inclined to believe, that on an attentive ſurvey, we ſhould find a far greater number of trees of conſiderable dimenſions *now ſtanding*, than a traveller could ſuppoſe on a curſory view of the country.

It was at firſt my intention to have undertaken this general ſurvey; but finding that it would have been attended with more trouble and delay than at firſt appeared, I confined my enquiries to a few neighbouring counties; the reſult, which I think very ſatisfactory, I ſhall have the pleaſure of communicating: Except in a few inſtances I kept entirely to the maritime ſide of the county of Wicklow, Queen's county and the county of Dublin, and even in theſe, I muſt have left ſeveral trees unnoticed, which no doubt deſerved attention.

I could have conſiderably enlarged my catalogue, if I had not determined to ſtate nothing which may not be perfectly relied on, and even thus, the inſtances I am enabled to give of the great trees ſtill ſtanding, or whoſe remains are ſufficient to authenticate what they were within a few years, are fully adequate to prove, that Ireland in due time is capable of producing timber of the *firſt magnitude;* and that conſequently we can never be too careful of the *woods* we *already poſſeſs*; whilſt the ſeveral ſpecimens of rapid growth I can adduce, will be found ſufficient on the other hand to encourage the *Planter* to extend his labours as I before obſerved to the utmoſt of his ability; not only as a healthy and rational amuſement, and for the purpoſe of ornamenting his domain, but as a profitable employment, a ſource of future wealth to his family, and (if he makes *oak* his choice, as no doubt it ought, whether we conſider the *bark** or the *timber*) as intimately connected necޥted with the advancement of the manufactures and general improvement of his country.

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* So great is the deficiency of oak bark at this time in Ireland in proportion to the demand, that the Chancellor of our Exchequer Sir John Parnel, from that attention to the manufactures of this kingdom which he (as well as his predeceſſor in office the preſent Speaker,) has been long known to poſſeſs, was induced to propoſe in the laſt ſeſſions a bounty of three ſhillings per barrel on all bark imported into the kingdom during the current year. This meaſure may at firſt appear injurious to that ſpirit of *planting*, which as an extenſive Planter himſelf, and on many other conſiderations, the Chancellor of the Exchequer would certainly wiſh to encourage; but excluſive of ſeveral countervailing circumſtances, ſuch as a large additional

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additional bounty on *oak plantations*, &c. which the Dublin Society have in contemplation to offer, it is, I believe, a fact, that the *bark* of no other country (England excepted, who does not wiſh to export it) will ever be purchaſed by our manufacturers, when *that of our own can be procured*. I ſhall take an opportunity of enlarging more hereafter on this ſubject.

ON THE
MAGNITUDE and VALUE of TREES.

IN the ſmall ſurvey, which as before mentioned, my time permitted me to make, the diſtrict of *Shillela* in the county of Wicklow firſt claimed my attention. Though the name, with little variation in the ſpelling, may be literally tranſlated *fair-wood*, there are *few* now remaining of thoſe celebrated oak which authorized that denomination; but thoſe *few* are ſufficient to ſupport what has been handed down to us concerning them.—Tradition gives the *Shillela Oak* the honor of roofing Weſtminſter-Hall and other buildings of that age; the timbers which ſupport the leads of the magnificent chapel of King's College Cambridge, which was built in 1444, as alſo the roof of Henry VIIIth's chapel in Weſtminſter-abbey, are ſaid to be of oak brought from theſe woods, and I think it by no means improbable, that the ſuperior denſity and cloſeneſs of grain which is the character of the *Iriſh Oak*, particularly in high ſituations and a dry ſoil, as may appear by comparing its ſpecific gravity with that of other Oak, added to the inattention of the Iriſh at that time to the article of *bark*, which permitted their oak to be felled in winter, when *free from ſap*, might have induced the Engliſh Architects to give it the preference in ſuch material works; and it muſt be allowed that the preſent unimpaired ſtate of theſe roofs, after ſo many centuries, ſeems very well to warrant this conjecture.

It is generally underſtood that a ſale was made of ſome of the fineſt Timber of *Shillela* which remained in Charles II.'s time, into Holland for the uſe of the Stadt-houſe and other buildings, conſtructed on piles driven cloſe together to the number of ſeveral hundred thouſand. In 1669 William Earl of Strafford furniſhed Laurence Wood of London with ſuch pipe ſtaves, to a great amount at 10*l. per thouſand* as are now ſold for *fifty*, and are only to be had from *America*. The year 1692 introduced into *Shillela* that bane of all our timber, *iron forges and furnaces;* and as the parties were allowed to fell for themſelves ſeveral thouſand cord of wood yearly, and were only confined to a particular diſtrict, they cut whatever was moſt convenient to them for the purpoſe, and it is inconceivable what deſtruction they muſt have made in the courſe of *twenty years* which was the term of their contract. I find by a memorandum in my poſſeſſion relative to ſome of my own woods, that in 1666 many thouſand cord of wood ſold at 4*d.* *per* cord which now ſells on the ſame ground for 7*s.* 6*d.* however the iron works left ſome very noble trees ſtill ſtanding, as we ſee by the ſale of Mr. *Siſſon's* tree before mentioned, which produced two large mill-ſhafts, and upwards of 200*l.* for the remainder of the timber when ſawed into coach pannels; and it alſo appears from a paper in the hand-writing of *Thomas Marquis of Rockingham*, found amongſt the papers of his ſon the late *Marquis of Rockingham* (who to his numerous amiable qualities and endowments, added a great knowledge of rural œconomics, as we find not only from the management of his grounds and the deſire he manifeſted of improving the huſbandry of his neighbourhood*, ſo ably communicated by Mr. Young, but from ſeveral minutes of agriculture which I have ſeen of his own writing) that in 1731 there were ſtanding in

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* The deſire of improving the agriculture of the country round him as mentioned by Mr. Young, was not

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not confined to his eſtate in England, the ſame patriotic attention was extended to this kingdom in a variety of ways; he gave 500l. to purchaſe arms for a loyal and ſpiritedbody of his tenantry who formed a volunteer aſſociation in 1779, at the moment of an expected invaſion; about the year following he ſent over the old *Kentiſh farmer*, (whoſe plough and general management is ſo much applauded by Mr. Young) to inſtruct ſuch of the tenants as might wiſh to follow his practice: ſeveral of the implements of huſbandry he introduced were found to be of ſingular ſervice, and have ſince been adopted into very general uſe. When to theſe circumſtances amongſt many others of a ſimilar nature, ſuch as the grant of large ſums to purchaſe proviſion for the poor in times of ſcarcity, and the liberal expenditure before-mentioned of Earl Fitzwilliam in building the Flannel-hall at *Rathdrum*, &c. we have to add, that there does not exiſt an inſtance of a ſingle acre of the *Rockingham*, now *Fitzwilliam* eſtate having been ever *advertiſed* or offered to be let to the *beſt bidder*, but that his farm when out of leaſe is uniformly offered to the *tenant* at a fair valuation, we muſt allow that ſuch *abſentees* are in a great meaſure entitled to an exemption from that cenſure which others may have juſtly incurred; *theſe* leave us as little as poſſible *to regret in their abſence*, but the *loſs of their ſociety*.

that part of *Shillela* called the *Deer Park* 2150 oak trees then valued at 8317*l.* the timber at 1*s.* 6*d.* per foot and the bark 7*s.* per barrel the ſame trees at the rate thoſe articles now ſell for, would have produced at leaſt 16,000*l.* One hundred and forty of theſe were marked to ſtand for the future ſupply of the machinery of the iron forges and furnaces before-mentioned, they were then valued at 511l. but as trees now ſell were well worth 10*l.* *each* on an average: the remainder were not immediately cut down, for in 1737 there remained 1,540 trees; 1,400 of which were valued at the above low valuation to 6,000*l.* at the preſent value they would have been worth 9,800 or 7*l.* a tree one with another, which muſt be allowed a very conſiderable price for ſuch a number.

In 1780 when Mr. Wainright, Earl Fitzwilliam's preſent agent (to whoſe obliging communication I am indebted for ſeveral of theſe particulars) arrived in this kingdom, there remained 38 only of the *old reſerves*, theſe had been valued two years before by Mr. Scot his Lordſhip's wood agent, (a gentleman eminently qualified for the office;) and he eſtimated them to contain

2,588

2,588 feet of timber, which at the price ſuch groſs timber would now ſell for, together with the value of their bark, would make them worth 516*l.* for the 38 trees, or 13*l.* 10*s.* *each tree* on an average.—The evident ſymptoms of decay which from that time they began to exhibit, owing to windſhakes and other diſorders incidental to all old trees, who have loſt a maſs of ſhelter on every ſide, made it expedient to cut them nearly all down from time to time; the *laſt* I remember to have been felled produced at three ſhillings per foot 27l. 1s. 8d. another about the ſame time was purchaſed for the arm of a fire engine at Donane colliery, and with the rough end ſawed off after the axe for which two guineas was given, produced 26*l.* 4*s.* 3*d.* there ſtill remains one entire tree about 10 feet round at five feet from the ground, ſtraight as a pine for 60 feet and about 6 feet round at that height; there is alſo in a little iſland in the forge pool a ſhort trunk which meaſures 21 feet round.

To ſucceed theſe however, there is a conſiderable number of healthy oak of a good growth for their age, in the adjoining woods of *Coolatin*, ſeveral of them about 7 feet 6 inches round with 30 feet or more of ſtem, and promiſing in time to be very fine trees, as well as ſome beautiful aſh of a great height and 9 feet round; but the two beſt trees in the diſtrict of *Shillela* are in the domain of the Rev. Mr. Symes at *Ballybeg*, a very ſpirited Planter and great lover of trees; this is in the neighbourhood of thoſe grounds, on which as I before obſerved, Thomas Earl of Strafford built his hunting lodge, by him called *Fairwood-Park**; in theſe we have two objects well worth the attention of the arboriſt, one being an evident proof that coppiced trees are capable of growing to as great magnitude and value as can be deſired; the other as an inſtance of the very rapid growth of oak where the ſoil is well adapted to it—the firſt which I have had occaſion to mention before as growing on the bank of a ditch with a forked ſtem evidently from an old ſtool, is in the very *leaſt* ſpot in which it can be meaſured 27 feet round, from whence the two ſtems grow up very fair timber for a great height, one meaſuring 20 feet round at the butt and 7 feet at 40 feet high, the other 12 feet at the butt and 5½ feet round at the above height.

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*It may amuſe the Reader to ſee a deſcription of this part of the country, at that period, and the manner in which he ſpent his time in it, in ſeveral of the letters of this truly *great*, but *unfortunate* man. In theſe letters which the ingenious Mr. Walpole has ſtiled *Chef d'œuvres of manly ſenſe and eloquence*, he will alſo find a refutation of moſt of thoſe calumnies and miſrepreſentations, under which the memory of their noble Author has very unwarrantably ſuffered.

The ſecond grows in a rich meadow nearer the garden and promiſes in time to become one of the moſt beautiful trees in Ireland, as its age does not exceed 80 years, and yet it is already 14 feet round at bottom and 12 at 8 feet high, the head in full health, finely formed, and extending *many yards* from the bole on every ſide. Theſe two capital inſtances ſo perfectly in point with my ſubject, one of the *great magnitude* to which a tree growing from the old ſtool may arrive, and the other of the *quick growth* of an oak where it likes the ſoil, muſt plead my excuſe with my brother Planters, if I have detained them too long in the woods of *Shillela*, and deviated in my detail ſomewhat more into the habits of the *Antiquarian*, than may be allowable in a work of this nature.

There are ſome conſiderable Scots-fir at *Ballybeg* for their age, and at Mrs. Symes of *Hillbrook* not far from thence, many meaſure 7 feet round at five feet from the ground, and 5 feet at 50 feet high; one felled in its 70th year was 77 feet ſix inches in length of clear timber, and meaſured 6 feet 6 inches round at 50 feet from the ground.

Shelton, the ſeat of Lord Viſcount Wicklow, near Arklow is finely wooded; we may ſee there a witch elm 16 feet round at bottom and 15 feet 3 inches at 6 feet from the ground; ſeven beech whoſe dimenſions are from 15 feet to 13 feet 9 inches round; and upwards of *ſixty* from the laſt ſize to 10 feet round, many of theſe of great height carrying the above girths for more than 40 *feet*.

The beech is not a native of Ireland; thoſe at *Shelton* appear amongſt the firſt which were brought into this kingdom, and from their maſt, moſt of our fineſt beech have been propagated.

At the ſouthern extremity of the domain of *Avondale* near *Rathdrum*, there is an oak ſtanding, which though only fourteen feet round at five feet from the ground, was valued at more than 25*l.* before the year 1776. The head which was of very great height and extent, conſiſted of ſeven principal branches, each very groſs and finely formed for ſhip timber; a violent ſtorm in the above year tore off four of them near the trunk, where they were about ſix feet round; this has greatly leſſened the value of the tree, but from the vigorous growth and great height of the three remaining branches, which riſe from the centre, it is ſtill a fine object; and as the bark is now covering the parts where the wounded branches were ſawed off, I flatter myſelf, it may yet make a very conſiderable tree.

The ſame ſtorm threw down a very fine old *Aſh*, which grew nearly ſurrounded with water on the bank of the *Avonmore*, about one hundred yards from the *Oak*. The trunk, when ſawed off the butt which ſtill remains in the water, was above 14 feet round, and carried nearly the ſame dimenſions for eighteen feet.—Of one plank I had a table made for my ſervant's-hall, and though the tree had grown for many years full three parts in four of its ſtem in water, it is by far the beſt and firmeſt wood of its kind I ever ſaw, of great weight, beautifully branched like mohogany, and capable of receiving a conſiderable poliſh; near this grew another remarkable *Aſh* with a very lofty ſtem and great head, but much covered with ivy, it was my misfortune to attend to thoſe who adviſed me to have the ivy cut off for the good of the tree; from that moment it ſeemed to decay, and the ſecond year ſcarcely put out a leaf; I do not recollect its dimenſions, but I know that one length of its ſtem ſold at 1s. 6d. per foot, for 5l. 12s. for the purpoſe of making bellows for furnace, and the remainder brought the whole value to about 10l. This, though certainly a conſiderable produce for an aſh tree, we ſhall find hereafter greatly exceeded by the ſale of ſome others in the neighbourhood of Dublin.

Near the bridge of *Rathdrum* is a moſt picturesque *Sycamore* above 11 feet round, and at two miles from that town on the road to Shillela, there was lately belonging to Thomas King, Eſq; a ſtill greater tree of that ſpecies, being 15 feet in circumference, with the moſt beautiful head in proportion; this was the largeſt ſycamore I ever ſaw; the beſt now in the county is at *Weſtaſton*, the ſeat of Thomas Acton, Eſq; where in general the trees are of very conſiderable magnitude.

Dunganſtown the eſtate of William Hoey, Eſq; contains ſeveral very fine trees of different ſpecies; but an old avenue of *Spaniſh cheſnuts* which ſtood in the domain 'till this ſummer 1793 for 110 *years*, contained amongſt them ſome of the fineſt ſpecimens of that charming tree, which

I ever met with—they are now no more—but I muſt do Mr. Hoey the juſtice to ſay, that he withheld his conſent to their being felled, till they exhibited ſuch ſymptoms of decay as rendered them no longer *ornamental.* I took a laſt view of them as they lay on the ground, after all their branches had been lopped off and carried away; from their ſize, form, and greyiſh colour, they ſtrongly reminded me of the deſcription given by travellers, of huge *crocodiles* ſunning themſelves on the banks of the Nile. I meaſured the three firſt I came to, one was 16 feet 6 inches round, another 15 feet, and the third 14 feet 3 inches; the length of one 36 feet, and of another 24, and 12 feet round at the *ſmalleſt end.*

Having viewed theſe remains for the laſt time, with *great regret*, I had the pleaſure of finding an admired line of *Yew trees* in full vigour, as remarkable for their *form* as the cheſnuts had been for their *ſize*, this conſiſts of about 30 trees, moſt of them 6 feet round, perfectly ſtraight and ſmooth in the ſtem as a young aſh tree, for about 7 feet 6 inches from the ground; where they begin to throw out branches, and thence continue a rich cloſe maſs of green foliage for full 25 feet above their clear ſtems, reſembling a conſiderable ſuperſtructure raiſed over a regular colonade—had ſuch a growth of *yew* been common in this kingdom in the days of archery, we ſhould not have wanted acts of parliament requiring the importation of *yew bow-ſtaves* from *Spain*.

Every ſpecies of myrtle ſeemed formerly almoſt indigenous at *Dunganſtown* ; I have known the narrow leaved Italian in full flower there, above 16 feet high :—Of two old ſtems I meaſured laſt ſummer, one was 17 inches round, the other was within one inch of two feet, or eight inches diameter. The moſt promiſing tree now here is an *Aſh*, 12 feet round with a ſtraight ſtem, and quite clear of branches for 30 feet, where it meaſures 10 feet round, and the arms extend in beautiful forms 28 yards.

At *Roſſana* the ſeat of Mrs. Tighe, and on the eſtate adjoining, we have ſeveral ſpecimens of fine timber ; amongſt theſe the *Milltown oak* is moſt conſiderable; till very lately the head had ſcarcely loſt a ſingle branch, and formed a huge canopy of 36 yards extent over a clear ſtem 19 feet round, and 9 feet high: yet notwithſtanding theſe very great dimenſions, I have good reaſon for being of opinion, that this tree has not grown from an acorn *without tranſplantation*; from ſeveral circumſtances it appears to have been once a *breaſt-quick* in the face of a ditch.

At *Mountuſher* there are ſome great ever-green oak, from 6 to 8 feet round, the wood of which is hard beyond conception and ſeems incapable of decay; but the *Silver fir* next the houſe are particularly deſerving of our notice, as the largeſt trees of their ſpecies I have ever ſeen; one meaſuring 12 feet round, the other 11 feet 6, upwards of 100 feet high, and carrying nearly the ſame girths for 36 feet.

Conſiderable as the magnitude of ſome of the above foreſt trees muſt be allowed to be, we know they are *exceeded* by ſeveral of the ſame kind in England*; but the following dimenſions of a fruit tree, and a flowering-ſhrub both now ſtanding in the county of *Wicklow* have ſcarcely been any where equalled; unleſs

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* I have ſelected out of many others the following inſtances of extraordinary ſize and great value of ſome oaks now ſtanding in England, as likely to be acceptable to ſuch of my Readers as may not have had an opportunity of viewing the trees, or peruſing the works from which the following particulars are extracted:

The SWILCAR OAK in *Needwood Foreſt*,

Meaſures 21 feet in circumference at 5 feet from the ground.

Sir WALTER BAGOT'S WALKING-STICK,

Meaſures 16 feet round at 6 feet from the ground, 35 feet of clear ſtem, then 40 feet of branches and a clear ſtem over that for a conſiderable height, valued at 60l.

Duke of PORTLAND'S WALKING-STICK, at *Welbeck*,

Circumference at bottom 21 feet, at a yard from the ground 14 feet, 111 feet high, contents 440 feet of timber.

The

unleſs we admit the cheſnut *di centi cavalli* on Mount *Ætna* to be produced as one of the *former* claſs. The fruit tree I allude to, is a *cherry*

The DUKE'S PORTERS at *Welbeck*.

Circumference of one at bottom 38 feet, at a yard high 27 feet, height 98 feet, contents 840 feet: circumference of the other at bottom 34 feet, at a yard high 23 feet, 88 feet in height, contents 744 feet.

PARLIAMENT OAK in *Clipſton-park*,

Meaſures 28 feet 6 inches at a yard from the ground.

BIRCHLAND OAK in *Sherwood Foreſt*,

Meaſures 27 feet 4 inches round in the *ſmalleſt* part.

MIDDLETON OAK,

Meaſures 20 feet round at 3 feet—25 feet clear ſtem, then ſeveral tire of branches, over that a clear ſtem of 15 feet which makes the whole ſtem 65 feet—50l. has been long ſince refuſed for this tree.

SHIRE OAK in Earl FITZWILLIAM'S PARK at *Wentworth*,

Height of the ſtem 50 feet, by what dimenſions in circumference I cannot exactly ſtate, but there is 306 ſo- lid *cherry* at the Rev. Mr. Truel's at *Clonmannin*; which meaſures 15 feet round the ſtem at 5 from the ground, it is in perfect health and

full

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lid feet, in 25 feet of the groſſeſt part, which is valued to 61l. 5s. 0d.—value of the whole tree 111l. 15s.

HOLT FOREST OAK near *Bentley*,

Meaſures 34 feet in circumference at 7 feet high.

Lord **PETRE'S CHESNUT** at *Writtle* in *Eſſex*,

Meaſures 46 feet one inch round at 5 feet high, or full 15 feet diameter.

Lord **DUCIE'S CHESNUT** at *Tot-worth* in *Glouceſterſhire*,

Meaſures 46 feet 6 inches in circumference at 6 feet from the ground.—This tree is ſuppoſed to be 1100 years old, having been called the *Great Cheſnut* in the reign of King John.

The **COWTHORPE OAK** near *Wetherby*,

In circumference cloſe to the ground 78 *feet*, at 3 feet from the ground 48, its height in the ſhattered ſtate it is now in, 85 feet, its principal limb extends 16 *yards* from the trunk—for further particulars of this truly wonderful tree, I refer the reader to the laſt edition of Evelyn's Sylva, by Mr. Hunter, where he will find a ſketch &c. of it made on the ſpot by my ingenious and amiable friend *William Burgh*, of York, Eſq;

full bearing, the fruit very finely flavoured, of the *Upton-mazard* kind.

The ſhrub which I hold to be the moſt ſingular in this or in any other kingdom is the celebrated arbutus at *Mount-Kennedy*, the charming ſeat of our preſent Commander in Chief, already noticed by Mr. Forteſcue in his hints on planting, and by Mr. Young in his tour through Ireland. The ſtem below its firſt diviſion as meaſured by Mr. Forteſcue in 1773, was 13 feet 9 inches round, it had been planted in a ſmall garden encloſed with high walls at a period previous to the preſent century; as the caſtle was deſtroyed towards the end of the laſt, this aſcertains its age to exceed *one hundred years*.

General Cuninghame in dreſſing his domain found it neceſſary to take away the walls and level the ground of the old caſtle garden, which expoſed the arbutus to ſtorm on that ſide where it had been ſheltered for ſo many years, and where from its ſituation near the wall no great roots had been formed, the conſequence was, that in a high wind about twenty-two years ago the root was torn up, the trunk ſplit in two, one half nearly buried in the ground, and the other forced into a very oblique poſition, greatly mutilated indeed, but ſtill thro' ſkilful management very beautiful; freſh healthy ſhoots having ſprung up from the branches, where they have been inſerted in the ground in the manner of *layers*, and ſome young plants introduced amongſt them, ſo as in the whole to make one of the moſt pleaſing groupes or maſſes of this charming ſpecies of evergreen, which is any where to be met with. I meaſured it on Chriſtmas-day 1793; the principal ſtem now ſtanding, which, as I ſaid before, is but barely half the tree, is 8 feet in circumference, this divides into four branches, one of which is 4 feet 10 inches, and the ſmalleſt 3 feet round; a branch which was ſawed off at 9 feet from the trunk, meaſures 2 feet 9 inches at the ſmall end; the whole was then in full beauty of foliage berry and bloſſom *at once*.

I have often viſited this extraordinary tree, for who has ever been *once* at *Mount-Kennedy*, that did not wiſh to go *again*, and I never viewed it but with *encreaſed wonder* and *delight.*

Tiny-Park, the ſeat of Sir Skeffington Smyth, Bart. affords many objects well worth the attention of the arboriſt; we here find an *Aſh* in a very expoſed ſituation, on the bank of a ditch evidently growing from a tranſplanted tree, and that once *cut down*, the circumference of which in the *ſmalleſt* part of the trunk ſomewhat exceeds 19 feet, or 6 feet 4 inches diameter.—There is another near the old houſe which has been very beautiful, but is now much decayed; it meaſures 13 feet round, and carries that ſize with a ſtraight clear ſtem for about 25 feet.—A third on the top of a dry bank overpowered with ivy, is 18 feet in circumference; there are three noble *Beech* together, the ſmalleſt 14 feet round, the next 15 feet 6 inches at the butt, and 14 feet 8 inches at 7 feet from the ground; the third, which is one of the moſt beautiful and faireſt trees imaginable, is 16 feet 3 inches round, and continues nearly of that girth for

36 *feet high.* There are many Portugal laurel from 4 to 5 feet round, and abundance of common laurel above 6 feet in circumference; ſome with clear ſtems for 16 feet high. I meaſured one of 7 feet round or 2 feet 4 inches diameter whoſe ſtem and branches together were above 36 feet in height. There is a *Scots-fir* of 10 feet round whoſe bulk is continued for 25 feet, a ſpruce fir 8 feet in circumference and of the ſame girth for 20 feet, and conſiderable timber for 50 feet more, and another 9 feet round, of very great height, yet the head perfect and beautiful, with all its branches weeping, which in ſpruce-fir is a mark of luxuriant health.

At *Ballygannon*, the ſeat of J. P. Scot, Eſq; is a variegated ſilver holly remarkably beautiful from the richneſs and cloſeneſs of its head, the ſtem is about five feet round, and the whole 28 feet high.

There is a fine ſpecimen of the *Pinus Sativa* or *true Stone Pine* at *Old-court*, the ſeat of John Edwards, Eſq. the ſtem is very groſs, ſtraight, and free from knots for a conſiderable heighth, with a great branching head; it grows near an old caſtle, and gives the ſcene an appearance of what we may find in ſome of the landſcapes of Pouſſin and Claude Loraine

At *Kilruddery* the antient ſeat of the Earls of Meath, are ſeveral very large evergreens of various kinds and of great beauty; the *Ilex* in particular, grows here as well as in any part of Italy.

In Lord Powerſcourt's romantic park which contains the celebrated waterfall, the growth of the old *Oak* adds much to the picturesque ſcenery; he has alſo ſome fine trees nearer *Powerſcourt*: I meaſured one *Aſh* with a clear ſtem of 20 feet in height, which was 15 feet in circumference.

Having now finiſhed the ſurvey I propoſed of the maritime ſide of the county of Wicklow, I ſhall preſent the reader with the reſult of my enquiries in the county of Dublin; and firſt, At *Old Connaught* near Bray, there are ſome *Bay tr~~o~~e**es*** of extraordinary ſize, ſeveral of them 8 feet in circumference, and till laſt year there was one whoſe ſtem exceeded 11 feet in girth or 3 feet 8 inches diameter.

At *Loughlinſtown* there is an old *Elm* of great ſize and formerly of conſiderable beauty, and well placed on a high knowl, but in dreſſing the ground ſome time ſince, the roots have been ininjured, and all the branches have decayed in conſequence. There are ſome very large aſh in the Earl of Ely's park at *Rathfarnham*, but by far the fineſt trees in the neighbourhood of Dublin are at *Luttrelſtown* the ſeat of the Earl of Carhampton, whoſe good taſte in rural decoration has done juſtice to the many natural beauties it poſſeſſes; I have ſcarcely any where met with ſo many trees of different kinds which have attained to ſuch great bulk as here—in 1793 I meaſured a *Scots-fir* eighty-five years growth from the ſeed, of 11 feet 6 inches in circumference, and another of very great height 11 feet 10 inches round or 4 feet diameter, which I believe

excee~~e~~ds

exceeds the dimenſions of the largeſt foreign deal ever imported into this kingdom; theſe ſtand amongſt oak and other trees on very high ground though flat at top for a conſiderable extent, and muſt when young have been greatly expoſed to ſtorm; ſeveral *Aſh* in a valley meaſured from 11 to 13 feet 6 inches round, and were of an extraordinary height; one of theſe ſold ſince I meaſured it for 13l. ſome time before an *Elm* beginning to decay was ſold for 16l.; but the celebrated *Elm* by the road ſide is ſtill in perfect health and beauty, meaſuring fairly 18 feet 10 inches round the butt, and 14 feet 4 inches at 8 feet from the ground, and is very groſs timber for 40 feet more.

Before I quit *Luttrelſtown* I muſt mention a circumſtance which I do not recollect to have noticed elſewhere, viz. a vigorous growth of young *Sycamore* from the keys of different ages and ſize, up to 20 feet high or more amidſt *old Scots-fir*, and in a great meaſure *under their drip;* this may give a hint for the embelliſhment of Scots-fir groves, which are in general a moſt diſagreeable object when they begin to decay, and have been hitherto conſidered as almoſt incapable at that time of ſupporting any other tree.

At *Leixlip Caſtle*, the eſtate of the Right Honourable Thomas Conolly, there is a row of *Aſh* trees, 18 in number, which deſerve attention for their uniform great growth, on a very bleak expoſure, they meaſure from 9 to 12 feet round, with fair ſtems of conſiderable heighth, and fine branching heads.

Not far from hence at *St. Wolſtans*, in the county of Kildare, the late charming reſidence of the learned and ingenious Biſhop of Killaloe, to whoſe obliging communication I am indebted for the following particulars, ſtood an *Elm* which till the year 1762, was perhaps the fineſt tree of its ſpecies in the world; the diameter of the head taken from the extremities of the lower branches exceeded 34 *yards*; but in the autumn of that year the two principal arms fell from the trunk in one night, apparently from their own weight, as the weather was perfectly calm; the timber contained in theſe branches alone ſold for 5 *guineas*; in this ſituation the tree continued till the winter of 1776, when a violent ſtorm tore up the whole by the roots with a great maſs of ſoil and rock adhering to them. Some time previous to this the trunk had been carefully meaſured and was found to be 38 feet 6 inches in circumference; it had been hollow for ſome time, and the value of its timber by no means anſwered what might have been expected from the ſale of the two branches in 1762; we have nothing certain as to its age, but tradition ſuppoſes it to have been planted by the Monks of *St. Wolſtan*, ſome time before the diſſolution of that monaſtery which happened in the year 1538.

After regretting the fall of this coloſſal tree, the reader will learn with pleaſure, that not far from St. Wolſtans, at *Carton*, the magnificent domain of the Duke of Leinſter, through whoſe polite attention I was favoured with the meaſurement, there now ſtands in full health an *Elm* 14 feet 8 inches round near the bottom, or 4 feet 10 inches diameter, and thence gradually diminiſhing like the ſhaft of a doric column, being 13 feet in circumference, or 4 feet 4 inches diameter at 16 feet from the ground, and containing in the whole 169 ſolid feet of timber, with a fine head and in great vigour.

Very different from the perfect ſtate of this beautiful *Elm* is that of the old *Aſh* of Donirey near Clare-caſtle in the county of Galway, as communicated to me by Mr. Hardy, (inſpector of claims for premiums offered by the Dublin Society) who is himſelf a very ſkilful arboriſt, and from whoſe great fidelity in his reports, the following dimenſions may with certainty be relied on: at 4 *feet* from the ground it meaſures 14 *yards* or 42 *feet* in circumference, which is 14 *feet* diameter; at 6 *feet* high, 33 *feet* round, or 11 *feet* diameter: theſe dimenſions nearly equal the celebrated *Cowthorpe oak*, but the trunk has long been quite hollow, a little ſchool having been kept in it about 25 years ago; there are but few branches remaining, but theſe are freſh and very vigorous.

I feel much indebted to the Earl of Deſart for the trouble he was ſo obliging to take in procuring me the following meaſurement of ſome of the very fine trees which ornament his antient ſeat in the county of Kilkenny.

I have ſelected a few only of each kind out of a liſt containing many more of nearly equal ſize, viz:

Six *Oak* from 12 feet to 16 feet 3 inches in circumference.

Six *Aſh* from 11 feet 3 inches to 13 feet 4 inches in ditto.

Six *Elm* from 9 feet 6 inches to 10 feet 8 inches, ditto.

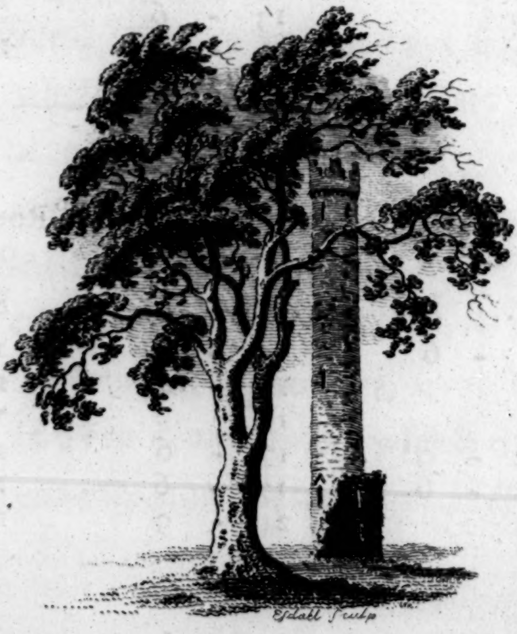
Six *Beech* from 11 feet to 12 feet round; theſe no doubt are fine trees, but what I think more remarkable, are

Six *Spruce-fir* from 9 feet 6 inches to 10 feet 6 inches in circumference. I had often heard theſe *fir* mentioned as the fineſt trees of their ſpecies in the kingdom, and was happy to find that they are ſtill in being. There are few ſoils in which the *ſpruce-fir* will attain the above ſize; in general they decay at a much earlier period, nor is this tree inclined to groſſneſs of ſtem ſo much as the *Silver* and *Scots-fir* in proportion to its height. The ſame may be ſaid of the *Larch*, I have ſeen ſome of great age and prodigious height in the Alps, but never of extraordinary bulk; we ſhall find this difference in our own plantations, even where the *Larch* grows with the greateſt rapidity in the beginning; amongſt other inſtances which I am acquainted with, I find at Charles Bury's, Eſq; at *Charleville* in the King's county, where there are abundance of fine *Larch*, that few exceed 6 feet 6 inches round, whilſt the *Silver-fir* of nearly the ſame ſtanding, meaſure from 8 to 10 feet in circumference.

Near *Kennity Church* in the King's county is an *Aſh* celebrated for its great dimenſions and for certain religious ceremonies which have for many years been obſerved with reſpect to this tree, cloſe to which the lower claſs of people when paſſing by with a funeral, lay the corpſe down for a few minutes, ſay a prayer, and then throw a ſtone to encreaſe the number, which have been accumulating for years round the root; its circumference is 21 feet 10 inches, or 7 feet 3 inches in diameter, the trunk 17 feet high before the branches break out, which are of great bulk, ſome of them as groſs as the body of a horſe: For the above particular account I am obliged to Thomas Bernard, Eſq; of *Caſtletown*, on a part of which this extraordinary tree is ſituated.

We have another ſpecimen of the great growth of *Aſh* at *Kilmurry* the glebe of the Rev. Mr. Huleat near Roſcrea, who was ſo obliging to have it meaſured at my deſire; round the butt near the ground it is 27 feet, at 3 feet higher 25 feet in circumference; the height of the trunk is about 13 feet, but the branches very much decayed.

If the magnitude of ſeveral of the individual trees before-mentioned appears to the reader in that light in which in truth it ought to do, conſidering the many chances there are againſt a tree ever attaining it, from the great length of time neceſſary, and the various accidents to which it is expoſed during its early growth, and ſtill more from *avarice* and caprice at a more advanced age; his admiration will greatly encreaſe, when he is informed, that their ſeveral dimenſions are nearly equal'd by thoſe of eighteen trees in *one demeſne*, which is the fact at *Curragh-more* the princely ſeat of the Marquis of Waterford, from whom I have had the honour of receiving the following particulars of meaſurement accurately taken at my requeſt in the courſe of this April 1794:



SIX ASH.

	Height of clear ſtem.		Round the butt.		Round the top of the trunk, at the height before meaſured.	
	Feet.	In.	Feet.	In.	Feet.	In.
No. 1	17		16	6	9	
2	14		18	9	16	6
3	15		22	6	20	4
4	15		23		18	
5	13		24	6	20	3
6	13	9	33	9	22	6

SIX BEECH.

	Height of clear ſtem.		Round the butt.		Round the top of the ſtem.	
	Feet.	In.	Feet.	In.	Feet.	In.
No. 1	18		12		6	
2	14		12	10	8	
3	15		13		7	6
4	14		13		8	
5	20		13	6	6	
6	14		16	6	14	

SIX OAK.

	Height of clear ſtem.		Round the butt.		Round the top of the ſtem.	
	Feet.	In.	Feet.	In.	Feet.	In.
No. 1	21	6	14	4	11	5
2	27		15	4	11	5
3	23		17		10	
4	23	9	17	6	10	4
5	23	6	17	6	10	6
6	25		21	9	12	

When to the above we might add above 200 more trees in the ſame demeſne, which meaſure from 10 to 14 feet round, we muſt allow that *Curraghmore* is as unrivall'd in this, as in ſeveral other circumſtances of magnificence and beauty.

I have the pleaſure to find that the celebrated *Holly* in *Ennisfallen-iſland* in the *Lake of Killarney*, mentioned by Mr. Forteſcue, is ſtill in perfect health and vigour; it was meaſured this preſent year by William Caldbeck, Eſq; in company with Chief Baron Yelverton, and proves to be nearly 15 feet in circumference, the ſtem about the ſame height, and the branches very conſiderable.

From ſeveral inſtances which have fallen within my knowledge, I might fairly aſſert that the longevity of certain ſpecies of *Evergreens*, and the great magnitude to which they arrive is in direct proportion to the *ſlowneſs* of their growth. I have never ſeen any of the Fir or Pine tribe, all allow'd to be quick growers, ever equal to the above *Holly* in dimenſions, which though of very ſlow growth muſt yield on the other hand in point of ſize to a tree of ſtill ſlower, viz. the *Yew*; many of which I have ſeen in England full as large again as the above *Holly*.

We had ſeveral fine ſpecimens of this tree formerly in Ireland—in the mountainous parts of the county of *Wicklow* it was certainly *indigenous*, and ſtill grows in a few ſpots which are luckily inacceſſable to miſchievous cattle, and avaricious land-owners—there was within theſe fifty years a ſingle *Yew-tree* adjoining one of the ſeven churches in *Glandalough*, from whoſe lofty trunk, about 16 feet round, extended on every ſide a maſs of cloſe branches, which ſhaded from the ſun, and ſheltered from every inclemency of weather, the picturesque ruin it adorned, and *all* the church-yard. This I have had from the indubitable authority of ſeveral who ſtill well remember it, when in its full beauty, on a hot ſummer's day, at a time that numbers were regaling themſelves under its ſhade, a gentleman of the party, who pleaded the authority of an agent to the See, (but whoſe employer I am perſuaded could not have ever viewed the ſcene), had all its principal limbs and branches ſawed off cloſe to the trunk, for the *value of the timber*—from that time to the preſent, which may be about forty years, the poor remains have been in a conſtant ſtate of decay; it has ſcarcely put out a branch, the bark has fallen off, and a large *Holly* is growing up through the fiſſures of the ſtem; ſo that I conſider it too far gone to enumerate it amongſt the large trees ſtill ſtanding in the county of Wicklow.

We may ſee a fine *Yew* which has met with a better fate at *Fornace*, the ſeat of Richard Neville, Eſq; in the county of Kildare; the ſtem, which is very clear for this ſpecies of tree, meaſures 12 feet round at 6 feet high; the branches extend 66 feet, and add much to a pleaſing ſequeſtered ſcene near an old ruin, amidſt *Holly* and *Laurel* of extraordinary bulk and great height.

At the Earl of Courtown's admired retreat in the county of Wexford, there is a very fine *Aſh* which in point of beauty would now have equall'd any in the kingdom if a part of its in point of ſize to a tree of ſtill ſlower, viz. the *Yew*; many of which I have ſeen in England full as large again as the above *Holly*.

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At the Earl of Courtown's admired retreat in the county of Wexford, there is a very fine *Aſh* which in point of beauty would now have equall'd any in the kingdom if a part of its great head had not been cut away to prevent injury to the dwelling-houſe, cloſe to which it ſtands; it is 15 feet 2 inches round and carries nearly that ſize for 13 feet in height; the main branches are very groſs for 26 feet from the bole, and beyond that there is ſtill a conſiderable length and great quantity of ſaleable timber; it is ſuppoſed to have attained this bulk within 90 years, and it is a circumſtance well deſerving the planter's notice, that during a great part of that period this tree muſt have been expoſed to violent blaſts from the *ſea*; but here I cannot help obſerving, that amongſt other uncommon charms, *Courtown* poſſeſſes *one* in a very ſuperior degree, viz that of a vigorous growth of timber almoſt to the water's edge on the *ſea ſhore*: ſo that within a few yards of a ſequeſtered inland ſcene, where a clear ſtream winds beautifully through a wooded valley, you may take ſhipping to any part of the world; nor need you wait long for an opportunity, particular circumſtances of anchorage, &c. inducing moſt veſſels in their paſſage along this coaſt, to caſt anchor for ſome time in that ſpot which terminates a viſto from one of the drawing-room windows.

I have long obſerved the *Aſh* to be capable of arriving to the utmoſt perfection, in a greater variety of ſoils, and bearing a more ſevere expoſure than any other tree ; I do not recollect this quality to have been taken notice of by any arboriſt amongſt the many excellent ones it may with juſtice lay claim to, if we except *Spencer's* negative compliment in the *Fairy Queen*, viz.—

> " *The aſh for nothing ill*———."

which certainly would imply a great deal, if we had reaſon to think he had any thing farther in contemplation than the excellence of the *timber*. I have deſcribed the *Aſh* at *Avondale* growing to 14 feet in circumference, or above 4½ feet in diameter in the edge of the *river* ; that at *Courtown* is within the influence of the *ſea*, whilſt thoſe I ſhall now mention at *Arles church* in the *Queen's county* are growing in a *dry* ſoil, on a high knowl or ſort of *Barrow* open on every ſide to the *ſtorm* blowing over a long tract of flat country; nor could they from their firſt planting have ever enjoyed the *leaſt ſhelter*; add to this that they are elevated on the top of a ſteep bank in a ſingle row round the church yard, and were in all probability planted of ſuch a ſize as to be at once out of the reach of cattle, notwithſtanding all theſe circumſtances againſt them they are very fine trees; of *two* I meaſured, one was 10 feet round in the ſmalleſt part of the bole, the other 11 feet 6 inches at 6 feet from the ground, but theſe (as has been ſaid of the other trees of England in compariſon with the *Cowthorpe Oak*) are but mere *children of the foreſt* when compared with the *aſh* of *Leix* in the ſame county. This celebrated piece of antiquity ſtands on the high road between Monaſterevan and Port-Arlington, and though it has long ceaſed to have any pretenſions to *beauty*, is ſtill one of the moſt *pictureſque* and *magnificent* objects of the kind I have ever met with; I meaſured it in April 1792; at one foot from the ground it was 40 *feet* 6 *inches* round, and at 5 feet higher which is actually the *ſmalleſt* part of the trunk it is full 25 feet in circumference or 8 *feet* 4 *inches diameter*;

this maſſive ſtem is full 9 feet high, but the enormous groſſneſs of the branches at their ſpringing from the bole, and the *horizontal* poſition which moſt of them immediately take, make the ſtem appear much *ſhorter* than it really is.

At ſome paces from this venerable antient, whoſe branches though much mutilated, extend full 70 feet, ſtands the *ſmall* tree of *Leix*, as it is called, though it is 14 feet 4 inches round in the *ſmalleſt* part you can meaſure, it grows on the top of a dry bank, part of the fence of a church-yard, in a ſituation I ſhould hardly have thought favourable to that rapid growth which its appearance indicates; it is by no means an *old* tree, and if ſuffered to remain, may in proceſs of time even exceed the bulk of its preſent companion. The lover of trees will hear with pleaſure, that it is in no danger of falling at this time, being on the eſtate of the *Earl of Port-Arlington*, an excellent arboriſt and one of the moſt extenſive planters and improvers in the kingdom :— On viewing the works which have lately been carried on in his demeſne of *Emo-Park*, and a very great houſe now building, I was at a loſs which to admire moſt the extent and boldneſs of deſign, or the pleaſing effect reſulting from the taſte and judgment with which it is carried into execution.

There are ſeveral *Scots-fir* here from 8 to 9 feet in circumference, ſtanding ſingle with clear ſtems from 20 to 30 feet high, and large wild branching heads, but richly clothed with leaves; in this ſtate the *Scots-fir* or *Pine* becomes a very *picturesque* tree, and in ſome ſituations highly ornamental. There are alſo ſeveral fine *Beech*, *Elm* and *Lime*, and a handſome *Yew-tree*, with a good head and clear ſtem 8 feet round; but the lovers of coppices and planting, will be ſtill better pleaſed to find ſome acres of hop-ground, part of which has borne fine crops for many years, and what has been lately planted promiſes as well as poſſible for the time. The growth of *hops* and attention to trees go hand in hand, theſe two ſpecies of improvement mutually aſſiſt each other, and Lord Port-Arlington has found his hops to be profitable beyond expectation.

At *Rathleague*, the ſeat of Sir John Parnell, Bart. though the traveller's attention is naturally attracted by a beautiful piece of water, decorated with extenſive plantation, and a handſome doric Temple on its banks—he may find in the more ſequeſtered part of the demeſne, ſome very conſiderable trees; there are many *Beech* from 9 to 7 feet round with ſtraight clear ſtems, of extraordinary height; and ſeveral very fine *Oak*, amongſt which I meaſured one of 9 feet round, as growing in my opinion from a tranſplanted tree which had been headed cloſe down at the time of tranſplanting; there are alſo very large *Wyche-Elm*, and *Aſh*: But Lord Aſhbrook at *Caſtledurrow* poſſeſſes an *Aſh* which I think on the whole is the moſt ornamental tree of its ſpecies that has ever fallen within my obſervation—it meaſured in October 1793, 18 feet in circumference or 6 feet in diameter, and carried nearly the ſame dimenſions for 14 feet, the branches extending 45 feet from the ſtem in almoſt *every* direction, and would in *all*, but from part being ſhortened on one ſide in favour of an out office unfortunately built too near this beautiful tree, which in fact deſerved to have every circumſtance in its vicinity conſidered as a *ſecondary* object.

I have often obſerved that the growth of white-thorn in *Ireland* far exceeds any I have ever met with on the other ſide of the water; there are in this neighbourhood at Robert Stubber's, Eſq; at *Moyne*, ſeveral white-thorn of 7 and 8 feet circumference with heads finely formed, and great in proportion, ſo that when in flower there can be nothing more beautiful; I meaſured one 5 feet 4 inches round the ſtem at 9 feet high, the branches extending thirteen yards. Another 7 feet 6 inches round the ſtem in the *ſmalleſt* part, the head entire, and covering a circle of 36 feet diameter, and a third whoſe branches extended round a very fair ſtem 24 feet on every ſide; this laſt is one of the moſt beautiful thorns I ever ſaw; but the largeſt I recollect to have ever ſeen, is at Lord Gormanſtown's in the county of Meath; it was about 10 feet in circumference ſeveral years ſince, it ſtood in the high road, and had received ſome injury and was hooped round with bands of iron when I laſt ſaw it, ſo that perhaps it may have ſince decayed.

Sir Robert Staples's demeſne at *Dunmore*, amongſt other pleaſing circumſtances, poſſeſſes ſome fine old oak, many of them 12 feet round from old ſtools: the banks of the *Nore* in general afford a good growth of timber for ſome miles adjoining; but the fineſt trees by far are at *Abbeleix* the ſeat of Lord Viſcount De Veſci; we may here find an *Oak* of 20 feet 6 inches in circumference, or nearly 7 feet *diameter* at a foot from the ground, and 16 feet 9 inches round at 5 feet 3 inches high, and a horſe cheſnut whoſe rich foilage forms a ſpreading canopy over a circle of 72 feet *diameter*.

With theſe two beautiful ſpecimens of great perfection in their kinds, not unworthy of the charming place*, in which they are ſituated, I

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* The growth of timber in general at *Abbeleix*, is equal to ſome of the beſt wooded demeſnes in England, and no

ſhall for the preſent cloſe my detail, which I fear has been already *too circumſtantial* for the generality of readers, and on the other hand, not ſufficiently

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where is the *uſeful* and *agreeable* more intimately blended, than on the ſurrounding eſtate. Amongſt many other pleaſing circumſtances, we are often reminded of that ſelected as an object of delight by Milton in his Allegro :—

> "*Hard by a Cottage chimney ſmoaks,*
> "*From betwixt two aged Oaks.*"

The education and uſeful employment of the infant poor, is *here,* as at *Roſſana* and *Bellevue,* in the county of *Wicklow,* interwoven with the morning amuſements of the place, whilſt the comfortable, and at the ſame time *pictureſque* cottages, with their accompanyment of eglantine and honey-ſuckle in the little-paled in gardens, at once *decorate* the ſcene, and afford *real comfort* to a happy tenantry.

To the honor indeed of the preſent age, the amuſements and ſtudies of ſeveral of the firſt rank in this, as well as our ſiſter kingdom, are ſuch, as conduce at once to the ornament and improvement of their reſpective countries. Our amiable Sovereign is not only an extenſive planter, but amongſt other branches of uſeful information, which he is eminently poſſeſſed of, is conſidered as one of the moſt ſcientific botaniſts in Europe.

ficiently *full* in the eyes of thoſe who may perhaps juſtly think that they are acquainted with trees which deſerve to be noticed *as well* at leaſt, if not *better* than ſome which I have deſcribed: to the firſt I muſt obſerve, that in thus particularizing ſuch remarkable trees as fell within my obſervation, I have only followed the example of the much approved of and ingenious author of the *Sylva*: I have attempted (though at a great diſtance I confeſs indeed in *every reſpect*) to do at this time in Ireland, what Mr. *Evelyn* did in England at the cloſe of the laſt century, from an opinion, that nothing would *more* conduce to the advancement of thoſe objects for which he had

undertaken

The firſt nobility, and higheſt in office in England, pride themſelves on the character of *good Agriculturiſts*, and *ſpirited improvers*; ſeveral of the ſame claſs with us furniſh examples equally *worthy of imitation*. The Duke of Leinſter, Marquiſſes of Waterford, Downſhire, and Abercorn, Earls of Shannon, Charlemont, and Port-Arlington; Lord De Veſci, Lord Mountjoy, the Speaker, Chancellor of the Exchequer, the late Teller Mr. Conyngham, and our preſent Commander in Chief, afford, amongſt very many others, the ſtrongeſt proof of the truth of this aſſertion.

undertaken his work, viz. the *encouragement* of *planting*, and *preſervation of woods*, for the ſupply of *timber for the navy*.

Excluſive of a natural inclination to follow ſuch very reſpectable authority, I had another inducement for regiſtering the meaſurement of a conſiderable number of trees, which was the conſideration, that by ſo doing alone, the growth they may make within a certain period, can poſſibly be *aſcertained*, in order to reſolve that very material queſtion in rural œconomics, and very intimately interwoven with my ſubject, viz.—whether after a given time, it is adviſeable to ſuffer a timber-tree to *ſtand*, where *profit alone* is the object? we have already ſeen that an *Oak* is in a ſtate of encreaſing value, almoſt in geometrical progreſſion from forty to eighty years growth: what I have done, may in a few years hence by having freſh meaſurements taken, very well aſcertain how long *after* that period its value continues to *encreaſe*. Theſe conſiderations, I hope, will excuſe me to ſuch as might otherwiſe think I had dwelt too long on a matter of mere curioſity.—To thoſe who may ſuppoſe that I have deſpiſed their groves, and ſlighted their favourite dryads, I flatter myſelf I need ſay no more to obtain a better opinion of me, than barely to aſſure them, that *want of time*, and in conſequence a want of ſufficient materials, has been the ſole cauſe of this apparent neglect; and that if I ſhall at any time hereafter, be favoured with ſuch information as may enable me to do juſtice to thoſe ſpecimens of fine timber now ſtanding, which have not already fallen within my notice, I ſhall take another opportunity of making a proper uſe of it, and will thankfully acknowledge the obligation.

ON THE RAPID GROWTH OF TREES IN PARTICULAR SITUATIONS.

As the foregoing examples of extraordinary magnitude and value of trees after a certain age, were intended for the conſideration of the *wood-owner,* as evident proofs of the advantage reſulting from the *preſervation of timber* to a proper age, and of leaving a ſufficient number of *reſerves* at every fall; the following inſtances of the extraordinary quick growth of ſeveral trees of different ſpecies, are ſelected out of very many others, as moſt likely to encourage the exertions of the *Planter,* by giving him an aſſurance of enjoying within a reaſonable period, the fruits of his labour.

One of the moſt remarkable which I have been made acquainted with, was an *Oak* at *Cahirnane,* near the celebrated Lake of Killarney, the ſeat of R. T. Herbert, Eſq; which, in the year 1739 would have been cut for the purpoſe of twiſting into the back-band of a cart, but from the carter's taking notice of its ſuperior height and beauty, to ſeveral others of the ſame age at that time ſurrounding it, none of which could have exceeded eight years from the acorn.—In the year 1785 ſome miſchievous perſon ſtripped off the bark nearly all round the ſtem: Mr. Herbert conſidered the tree as irrecoverably loſt, but it was ſo beautiful at the time, that he ſuffered it to ſtand for another year; it was then felled, when the bark produced little ſhort of *three pounds*, and the timber was valued to as much more, ſo that the tree in its fifty-ſixth year was worth 6*l.*; which is full double to what I have eſtimated a tree of that age in any preceding calculation.—It is worth obſerving, that the timber proved hard and ſolid like that of a tree which had continued a conſiderable time at a ſtand, though it was in ſuch vigour, and fine ſtate of growing the year before it was felled; this is only to be accounted for from the ſap having ceaſed to flow freely, from the time when the bark was ſtripped off; a circumſtance much in favour of Monſ. du Hamel's directions in his treatiſe "*Des Arbres et Arbuſtes*," where he adviſes ſtripping the bark off all trees as they ſtand, the year previous to their fall—the ſuperior goodneſs which I have always remarked in the timber of ſuch *Fir-trees* of different ſpecies as have appeared ſomewhat decayed at top, or *rampiked* before they were felled, is another proof in favour of Monſ. du Hamel's method; but, as on the other hand I have heard it obſerved that no conſiderable growth has ever been made from the old ſtools of *Oak* managed in this way: I ſhould not indeed without more experience, recommend the practice to any extent, in ſuch woods as we wiſh to preſerve for future coppices. From *theory* it is natural to ſuppoſe, that a tree felled when all its ſap had gone down, and was concenter'd as is the general opinion in its *root*, would be the moſt likely to throw up a vigorous ſhoot; but from long obſervation I can aver, that the root of an *Oak* never produces a finer growth of young wood, than when the tree is felled about the firſt week in *June*, in full leaf and vigour, and at the moment when the ſap is moſt abundant in the ſtem and branches.—The ſame may be obſerved of the *White-thorn*; I have known many roots decay or throw out only a few weakly ſhoots when cut at that ſeaſon when all the *ſap was down* ; and it gives me great pleaſure to be confirmed in the truth of this obſervation, by ſome of the moſt ingenious writers on ſubjects of rural œconomy of the preſent day*.

In addition to the above inſtance of an *Oak's* early arriving to conſiderable value, Mr. Herbert has given me the following meaſurement of ſix *Oak* taken indiſcriminately (except the laſt,) out of very many more of the ſame ſize, growing on his demeſne from acorns ſown in the year 1760—they were meaſured in this year 1794, at 5 feet from the ground, being in their thirty-fourth year.

No.	Feet.	In.
1	3	0
2	3	2
3	3	2½
4	3	7
5	3	8
6	4	11

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* Vide Marſhall's Minutes of Agriculture and Planting in the midland ſhires of England. Min. 146.

He favoured me at the ſame time with the meaſurement of ſix *Wyche* or native *Iriſh Elm*, produced by layers from the ſtool of a tree felled for that purpoſe in 1766, conſequently about 26 years growth at the very moſt.

No.	Feet.	In.	
1	3	11	at five feet from the ground.
2	4	0	
3	4	2	
4	4	5	
5	4	9	
6	5	1	at 3 feet where it forked,

and produced 2 branches each 3 feet 2 inches round;—though theſe alſo (except the laſt) were taken indiſcriminately out of many more of the ſame age and dimenſions, yet we find that three out of the ſix would cut into *twelve-inch plank* at 26 years ſtanding from the tranſplanted layer.

At *Bellevüe* in the county of Galway, the ſeat of Walter Laurence, Eſq; a great improver and extenſive planter, the *Spaniſh Cheſnuts* afford many remarkable inſtances of quick growth; they had been, when meaſured in 1790, 27 years tranſplanted, and were about 5 years old when removed, conſequently their age did not exceed 32 years from the nut, yet many of them were then 5 feet in circumference at a foot from the ground, and 4 feet 8 inches at 6 feet from the lower meaſurement, which laſt dimenſion continued with little diminution for 10 feet more; ſo that on an average of the different meaſurements, they would have afforded plank of 16 feet in length and full 12 *inches broad,* and ſome conſiderably broader, as one tree was found to meaſure 7 feet round at a foot from the ground, or 2 feet 4 inches diameter. This fine growth is in *ſtrong loom* over a lime-ſtone rock, and offers a great inducement indeed, amongſt many others, in favour of planting this incomparable tree; which for beauty of foliage, great bulk, valuable quality of timber, and longevity, is ſecond to the *Oak* alone, whilſt in quickneſs of growth we ſee that in many ſoils, and thoſe far from rich, it exceeds almoſt every other ſpecies of timber tree.

The plantations of *Carrickglaſs*, in the county of Longford, the ſeat of Sir William Gleadowe

Newcomen,

Newcomen, Bart. have in general the appearance of as great vigour and *quick growth*, as any I have ever ſeen, conſidering that in their wide extent the ſoil muſt often vary, but the trees have been ſo judiciouſly adapted, that *all* are in a flouriſhing ſtate; if there is a difference in their growth it ſeems to be in favour of the *Oak*, of which their great annual ſhoots and poliſhed bark give evident proof—after this character of the ſoil of *Carrickglaſs* as particularly ſuited to trees, we might naturally ſuppoſe that it produced the *Larch*, (a part of which ſawed off was ſome time ſince ſent into the Repoſitory of the Dublin Society, by Sir William, as a ſpecimen of the great growth of that ſpecies of tree) but *that* came from his grounds at *Killeſter*, about two miles from Dublin. It is indeed well worth notice, as having arrived to the meaſurement of 1 foot 8 inches *diameter* within 19 years, whilſt the *Spruce-fir*, a part of which is placed beſide the piece of *Larch*, appears to have taken 25 years from the ſeed to attain a *diameter* of 1 foot 7 inches; but it ſhould be obſerved that the *Larch* has been cut quite low with a ſaw into a part of the *root*, whilſt the *Spruce-fir* was felled firſt with an *axe*, and then a piece cut off with a *ſaw* a foot at leaſt above the ground, cloſe to which it meaſured 6 feet round; we muſt alſo take notice that it had been tranſplanted when full *ſeven* feet high, a circumſtance which in general, gives a great check to the growth of every ſpecies of *Fir*.

This tree, which before its top was broken off by a violent ſtorm promiſed in time to be one of the moſt beautiful of its kind in the kingdom, grew at *Avondale* before-mentioned, in the county of Wicklow—it was that ſeminal variety of the *Spruce* which has been denominated the long-coned Corniſh *Fir*; the cones being frequently near a foot long, it had been tranſplanted into a little lawn in a natural wood, edged on one ſide with old *Oak*, and on the other with remarkable fine Weymouth *Pine*.—Obſerving its luxuriant growth, and a tendency to *weeping* in its branches like the *Willow*, I followed a practice which I recollected to have been mentioned to me ſome years ſince by the late Mr. Shanley, (whoſe ſkill and natural taſte in ornamental gardening had early attracted my notice ;) viz. cutting away by degrees *all* the branches for about 7 feet high, and above that every *ſecond tire* ; by which, as the lateral ſhoots encreaſe in weight, they fall into the ſpace formerly occupied by the branches which were immediately below them ; this, in a vigorous tree, adds much to the pictureſque appearance, and is doubly pleaſing as connected with the idea of perfect health and luxuriant growth ; ſuch was the ſtate of this beautiful tree at the time of the ſtorm, that the lower branches which covered a conſiderable ſpace on every ſide, nearly touched the ground at their extremities, though they grew from the ſtem at the height of 7 feet. It is ſomewhat remarkable, that none of the Weymouth *Pine* though as tall as the *Spruce*, and ſtanding on higher ground and more expoſed to the ſtorm, ſuffered from it in the leaſt.

The lovers of planting will pardon me for this digreſſion on a favourite tree, and will be pleaſed to hear that the loſs has long-ſince been repaired, by the fine growth of numbers of its contemporaries.

In 1793, I felled a *Scots-fir*, one of *fifty* which had been brought to the plantation from a diſtance of *three* miles in a *one-horſe* cart, and as they were planted but 19 years, the tree I felled could not have exceeded 27 *years* at moſt from the *ſeed*, and I rather think it could not have been ſo old as 8 years at the time of tranſplanting; there was about a foot of the butt end waſted in felling and ſawing off the rough part after the axe, yet it meaſured fully 21 inches *diameter* at an average of three ſeveral meaſurements; it was ſawed into two lengths of plank, and produced twelve in all, worth at leaſt 20 *ſhillings* the dozen; the value of the remainder of the tree more than paid the expence of felling and manufacturing the boards.

Every planter will allow, that ſuch *Fir* ſhould by no means ſtand at a greater diſtance than 9 feet from each other; and the author of the treatiſe on the *Pinus Silveſtris*, would not allow them *half* ſo much, yet even at this diſtance, and allowing two feet to each tree for the ſpace its ſtem would actually occupy, we ſhall find that 640 ſuch trees will ſtand on an Iriſh acre: Now, ſuppoſing them a full third *worſe* than that which I have laſt mentioned, and to remain *three years* longer on the ground, we ſhall ſtill have a produce of 426*l.* in 30 years, or upwards of 14*l. per annum* for the *Acre.* I am well aware of the fallacy of drawing general concluſions from particular inſtances, and will readily allow, that on a very extenſive ſcale ſome parts might fail of equal ſucceſs; or if not, the very *plenty ſo produced*, would conſiderably leſſen the value of the *production*; but in the preſent general ſtate of the kingdom with reſpect to *timber*, we have little to apprehend from a *redundancy* for many years to come; and in the mean time, it would be but prudent to provide againſt the difficulties which we are often threatened with, in procuring timber from the northern countries of Europe, even if the attempt was not ſupported by ſuch evident proofs of great and almoſt *immediate profit.*

I find that *Weymouth Pine* planted now about 23 years, from the ſeed-bed, meaſure from 4 feet 6 inches to 3 feet, at one foot from the ground, and from 3 feet 6 inches to 2 feet 8 inches in circumference at five feet high, and are in general above 50 feet in height.—I have numbers of *Oak* tranſplanted from a *Dublin* ſeed-bed in May 1780, now 14 years growth, which meaſure at a foot from the ground, from one foot 10 inches to one foot 6 inches in circumference, and from one foot 3 inches to one foot round, at 4 feet above the latter meaſurement; but the tree, which of all others promiſes to make the greateſt progreſs on the generality of our high grounds, is the *Beech*; ſeveral at *Avondale*, which were tranſplanted within 30 years on a ſwelling ground, at that time much expoſed to ſtorm, are now from 7 feet 6 inches, to 6 feet 6 inches at a foot from the ground, and continue nearly of that ſize from 8 to 20 feet in height: of two which were planted in a richer ſoil near the river, and are now juſt fifty-four years old from the maſt, one meaſures 9 feet round, and the other 9 feet 6 inches.

This muſt be allowed to be a very great growth in the time, and when we add to this perfection of the *Beech*, that there appears no limit to its *duration*, as there are ſome Beech trees now in England which are ſuppoſed to have exiſted before the Norman conqueſt, yet ſtill freſh and vigorous, even when the trunk has exceeded ten yards in circumference, as I recollect a tree, which I meaſured in the great park of *Windſor*, to have done; and that whilſt the maſt in our woods is the fineſt food poſſible for ſwine, the timber is daily coming more and more into uſe, as anſwering in general every purpoſe of the *Aſh*, and found for ſome to be ſuperior; being now uſed as we are informed in thoſe very ſatisfactory letters of Thomas South, of Baſſington, Eſq. to the *Bath and Weſt of England Society*, for *planking* ſuch parts of the bottoms of ſhips as are conſtantly *under water*, and for ſluices and ſhoots, &c.

in mill work, we ſhall find no tree on the whole, that will more fully anſwer the Planter's expectation; as uniting in itſelf many of thoſe qualities, for which individually, other trees are conſidered valuable.—I would not wiſh however, to devote the whole of an encloſure to this tree, great a favourite as it is; but taking advantage of its hardy nature, and tendency to preſerve its leaves during a great part of the ſevereſt winters, I would cover with it a conſiderable portion of my high grounds, and allot the ſpace within the influence of this ſhelter, to the production of *Oak*, *Spaniſh Cheſnut*, *Weymouth Pine*, and ſuch other valuable trees, as we find from many inſtances, are not as well qualified as the former, to bear the ſeverity of an expoſed ſituation, particularly in the early part of their growth.

The following are the meaſurements of five *Oak* taken from amongſt numbers of the ſame age and dimenſions, growing from the old ſtools of trees felled in one of my woods, 33 years this May, 1794:

No.	Ft.	In.		Ft.	In.	
1	3	4	at 1 foot from the ground.	2	9	at 5 feet from the ground.
2	3	4		3	0	
3	3	9		3	4	
4	4	0		3	7	
5	4	10		4	0	

Conſiderable as theſe dimenſions muſt appear for their age, * to thoſe who are apt to look on coppiced woods, as little more than a collection of broomſticks, (which in the way they are uſually managed, I allow, they but too much reſemble,)

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* I find by an accurate meaſurement of the *Luccomb Oak*, which a friend of mine was ſo good to make at my deſire, within theſe few months, that at this time, *viz.* in its twenty-ſeventh year's growth, its circumference is 4 feet 6½ inches at four feet from the ground, ſix feet at the place of grafting, and its height 60 feet: the fairneſs of its growth, the verdure and long continuance of its leaves, are ſufficient motives no doubt, to induce every Planter to wiſh for ſome of thoſe beautiful trees in his demeſne; but the goodneſs of the *timber* yet remains

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remains to be *proved*, and from the appearance of its *bark* I fear it too much reſembles what has been generally imported from America, to anſwer the wiſhes of the manufacturer, in any compariſon with the Iriſh or Engliſh; as I have ſeen *foreign bark* nearly two inches in thickneſs in the whole, with ſcarcely a quarter of an inch applicable to the purpoſes of *tanning*.

This ſhould make us cautious of introducing too many of the foreign varieties of Oak into ſuch plantations as are made with a view to future profit—there are many of them indeed very beautiful; I think none more ſo, than the *Ragnal*, *Quercus Xeris* or *Turkey Oak*, whoſe deep indented leaves, and their particular manner of growing in groupes on the branches, have certainly a grace and richneſs peculiar to themſelves.

This tree is no where in greater beauty than at *Collon*, in the county of Lowth, the ſeat of the Speaker of the Houſe of Commons, who thro' his very extenſive plantations, has found means of attracting the attention of the lovers of planting every moment, by the judicious arrangement of ſuch an inexhauſtible variety and ſcientific colſemble,) I have reaſon to expect, that their meaſurement, at the expiration of the next five years, will ſtill more exceed the uſual dimenſions of trees of the ſame age; as there was not that attention paid to this wood for the firſt fifteen years after the fall, which I have ſince thought neceſſary, and have ſo ſtrongly recommended in the preceding ſection. † Theſe plants

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collection of trees and plants, as are ſcarcely to be equalled unleſs in the royal gardens of *Kew*.

The *Turner* Oak has great merit in continuing in full leaf and luxuriant freſhneſs through the greater part of winter; but on the whole, we ſhall find *none*, that in the end will repay the labour of either the *profitable* or *pictureſque* Planter *ſo well*, as that which has been the long admired *native* of the ſoil.

† The following accurate valuation of two pieces of coppice wood in my neighbourhood, on both of which *reſerves* had been left in the manner I have adviſed, came to me too late for inſertion in its proper place; but as I have received it from a very well informed gentleman, who has dealt largely in woods, and find it contains ſuch important

plants but lately ſingled out, are now beginning to ſhew the great advantage of being allowed a ſufficient ſpace for their growth, and a free circulation

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important information on the ſubject, as ſtrongly corroborates what I have before advanced, I ſhall take the liberty of inserting it here.

Value of one acre of coppice wood, in which there are now ſtanding one hundred Oak reſerves, of 56 years growth:

	£.	s.	d.
The reſerves at £1 : 5s. each on an average,	125	0	0
The younger growth of the coppice, now in its 34th year very thin, but the poles good, as remaining after many of an inferior ſort had been taken away at different times,	50	0	0
Total value of the acre, —	£175	0	0

Or five pounds per annum, for 35 years, viz. ſince the laſt fall.

Value

circulation of air; whilſt the *fine heads* they are forming, and the ſmoothneſs and brightneſs of their *bark* prove, what numbers may be thinned out of a coppice, (if done gradually) without the leaſt danger to the remainder from want of ſufficient ſhelter.

The growth of the *Aſh* in theſe woods, is generally ſomewhat more than that of the *Oak*, yet does not exceed it as much in proportion, as from the nature of the two trees, it might be ſuppoſed

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Value of half an acre of coppice wood, on which there are now ſtanding eighty reſerves, of 56 years growth, ſome from the Acorn, but moſt from the old ſtools:

Theſe reſerves are now worth each £1: 10*s*.
on an average, — — £120 0 0

The value of the acre at the ſame rate, would be £240 —There is at preſent little value in the underwood, as the beſt has been moſtly taken away from time to time, but by good information it may have amounted to £50 in the whole, which brings the value of the acre thus managed, to £290, or nearly £5: 4*s*. per annum for the 56 years it has ſtood.

ſuppoſed to do; but the *Birch* of the ſame age, is often more than a *fifth* groſſer than the beſt *Aſh* or *Oak* in its vicinity, and of ſurpriſing *height*.—So, that as the *bark* is worth half what *Oak bark* ſells for, and the timber is excellent for almoſt every rural purpoſe, it will be found highly advantageous to cultivate this tree in all our *coppices*, as it enſures an immediate profit, with little or no injury to any other tree, from the peculiar lightneſs and flexibility of its branches; which juſt preſerve a proper place during their ſtanding, to receive the undamaged branches of the more *valuable* trees after the fall of the *Birch*.

In a meadow below the woods is an *Aſh* from an *old root* of 31 years growth in 1794, which now meaſures 6 feet 6 inches round within a foot of the ground, and 5 feet 8 inches at 5 feet high; this ſtands near the river, and not far from the great *Aſh* tree I mentioned before, as growing three parts in water.

We might naturally attribute the ſize of the above to the nature of the ſoil, which ſeems peculiarly adapted to the *Aſh*, but that its dimenſions are fully equalled by another *Aſh* tree in the ſame demeſne, though of a ſtill *younger* ſtanding, and growing in a *dry* ſoil, on a high ſituation.

This in the year 1771, could not have exceeded ſix inches in circumference, having at that time narrowly eſcaped being cut down by a labourer for the handle of his ſhovel; it now meaſures in its twenty-third year from that date, ſeven feet eight inches round at a foot high, five feet eight inches at five feet, continues nearly of that ſize for *ſeveral* feet more, and then branches into a very large head.

On deducting ſix inches, the greateſt circumference of this tree in 1771, from the average of its preſent dimenſions, viz. eighty inches, we ſhall have ſeventy-four inches for twenty-three years growth, or nearly three inches and a quarter for every year*.

It would be ſuperfluous to add more to the foregoing proofs, on what a ſure foundation the

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* On comparing theſe ſeveral meaſurements with ſome which are communicated to the *Bath and Weſt of England Society*, by a very ingenious correſpondent in *Norfolk*, we ſhall have ample reaſon to be ſatisfied with the *growth* of our timber in this kingdom.

We find by his account, that *Black Poplar* planted in 1746, meaſured after forty-four years growth, viz. in 1790, but ſix feet ſix inches round at five feet from the ground.—Another ſort of Poplar or Abele, planted in large truncheons in 1760, after *thirty* years ſtanding, were not quite ſix feet in circumference.

Aſh planted at eight feet high in 1760, were but from three feet eight inches to four feet round, and *Oak* which were tranſplanted in 1764, and were then about three feet high, meaſured at five feet from the ground, from one foot ſix inches to two feet four inches at the very moſt, which on an average, does not amount to two-thirds of the growth of my Oak before mentioned, tho' nearly of the ſame age.

Planter may build the moſt ſanguine expectations of ſucceſs—I could adduce many others of a ſimilar nature, and on the moſt reſpectable authority; but as I had premiſed in the outſet of this little work, that I would offer few or none, which had not *grown*, in ſome meaſure under my immediate *obſervation*, I have choſen to confine myſelf almoſt literally to my own grounds.

I flatter myſelf however, that the enquiry I have ſet on foot on the growth of timber, and the more perfect management of woods, will be followed up by others, who, with an equal love of trees, and perhaps greater experience, may poſſeſs more leiſure time than I had, to devote to this equally uſeful and intereſting purſuit, the avowed favourite indeed of ſome of the greateſt and wiſeſt of every *clime* and *age*; and yet of none more perhaps, than the *preſent*.

The improvements by *plantation* which have been made in this kingdom and in England,

and ſtill more, as I am credibly informed, in *Scotland*, within theſe few years, afford manifeſt proofs of the liberality and ſpirit of the individuals who have undertaken them, as they will do infinite credit hereafter to the age in which they were carried into execution.

Nor is this ſpirit of improvement confined to individuals; the exertions of the ſeveral *ſocieties* for the advancement of agriculture, manufactures and fine arts, have been attended with every poſſible ſucceſs which could have been hoped for, from their reſpective inſtitutions.—In aid of the Society for the Encouragement of Arts, &c. in London, we find, that a diſtinct Board of Agriculture has been formed under the higheſt patronage; together with a ſociety for the improvement of Britiſh wool; and commiſſioners have been appointed to examine into the ſtate of the woods and foreſts belonging to the Crown, who appear by their conduct, to have very much at heart, a faithful diſcharge of the duties of their office.

Many other communities for the advancement of the ſcience of rural œconomics, arts and manufactures, have been ſet on foot in different parts of the. kingdom; thoſe of *Bath* and *Mancheſter* have not only gained ſingular reputation by their ingenious publications, but have already proved of the greateſt utility to the cauſe in which they have engaged.

We have as yet formed few ſocieties in this kingdom as correſpondent with that of DUBLIN, but the *parent* ſociety has not been *idle*.

The following extracts from their proceedings, will not only evince the truth of this aſſertion, but will ſerve to mark the *progreſſive* ſtate of improvement which *Ireland* enjoyed for ſome years paſt, till the unhappy ſituation of affairs on the continent, and ſome diſagreeable circumſtances in conſequence at home, produced a ſort of alarm thro' the kingdom, from which tho' happily much recovered, we cannot as yet ſay we are perfectly free.

BOUNTIES

PAID BY THE

DUBLIN SOCIETY,

From the YEAR 1783, to the YEAR 1791,

On the Propagation and Sale of

TIMBER TREES,

And Number of Trees Sold.

	PROPAGATED and Sold.		BOUNTY paid on the Sale. £.	s.	d.
In 1784	65,158	—	50	0	0
1785	1,205,000	—	185	0	0
1786	1,506,553	—	217	14	0
1789	1,359,280	—	241	7	0
1790	3,763,500	—	526	10	0

It alſo appears from the minutes of the Society, that in the year 1784, the total number of acres under every improvement, which was at that time the object of their bounty, amounted to ninety only, and that the ſum of money expended in various agricultural premiums in that year, did not not exceed *four hundred and ſixty-eight pounds.*

In 1785,	The number of acres, for the improvement of which any Claims were made, amounted to - -	272
	Money expended in bounties and premiums, -	£1052
In 1786,	Number of acres claimed for,	3183
	Money expended in bounties and premiums, -	£3430
In 1787,	Number of acres claimed for,	5113
	Money expended by the ſociety in conſequence, -	£4168

And in 1788, there were Claimants for the improvement of 9664 acres,
For which the Society paid in bounties and premiums £4876

I have already mentioned the advantages ariſing from the act of parliament, which confers upon the tenant a power of fencing up for his own uſe, under certain reſtrictions, ſuch tracts of woodland on his farm as have been left by the landlord for a certain number of years expoſed to cattle; the *Society* have added a further encouragement to tenants holding on determinable leaſes, by granting a bounty of forty ſhillings on every acre thus fenced up for coppice wood; and it is worth obſerving, that in addition to the great number of trees which muſt be annually planted on ſmaller encloſures, thoſe which have been put out by perſons claiming a bounty for plantations not leſs than ten acres in extent, have amounted on an average, for ſome years paſt, to five hundred thouſand in each year.

For ſome years indeed previous to 1784, the Dublin Society had turned their attention ſo much to *Arts and Manufactures*, as in a great meaſure to loſe ſight of the principal object of their formation; but the above ſtatement of facts fully proves, that ſince that period, their exertions in the advancement of Agriculture and Planting have been ſo ſtrenuous, and attended with ſuch ſucceſs, that this Society as an Inſtitution for the improvement of Huſbandry, may with great juſtice claim the diſtinction not only of being the *earlieſt* of its kind in Europe, but perhaps at this time the moſt conſiderable and comprehenſive in its views.

Amongſt many other inſtances of liberal expenditure to promote this great national object, a Repoſitory has been provided for the reception of Specimens of every uſeful Implement of Agriculture, which can be procured from England, Flanders, or any other country, which makes the leaſt pretenſions to good Huſbandry. This excellent eſtabliſhment is daily improving under the direction of the Committee of Agriculture choſen by ballot from the whole Society – theſe

Gentlemen* have been neither ſparing of application or expence to render the collection of Implements as perfect as poſſible; they have alſo carried their attention to the other uſeful Arts, by the addition of a large Apartment furniſhed with *Models* of the beſt conſtructed Machines, in various branches of Manufactures, &c; they have formed a conſiderable Library of valuable Books connected in general with all the Arts and Sciences, but more particularly with *Rural œconomicks*, *Botany* and *Natural Hiſtory*.

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* PRESENT MEMBERS,

Rt. Hon. John Foſter, Speaker of H. Commons,
Morgan Crofton, Eſq.
Thomas Burgh, Eſq.
John Leigh, Eſq.
Arthur Maguire, Eſq.
Lodge Morres, Eſq.
Thomas Fitzgerald, Eſq.
Samuel Hayes, Eſq.
Cornelius Bolton, Eſq.
Nicholas Weſtby, Eſq.
Richard Reynell, Eſq.
Right Rev. the Biſhop of Kilmore.
Major General Euſtace.
Sir William Gleadowe Newcomen, Bart.
Sir Lucius O'Brien, Bart.

A new range of buildings are now conſtructing deſigned partly for the reception of a Cabinet of Mineralogy*, and partly for more convenient School-rooms than the Society now poſſeſs, for the purpoſe of giving Inſtructions gratis in *Figure Drawing*, *Ornament* and *Architecture*, to ſuch youths as manifeſt an early genius for the Arts, but whoſe parents are not in ſufficient circumſtances to afford them inſtruction adequate to their wiſhes.

A room will alſo be adapted to the purpoſe of giving practical Lectures on Chymiſtry, and a conſiderable ſum of money is appropriated for providing and maintaining a Garden for the Improvement of the Science of *Botany* and *Planting*.

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* This Cabinet, which is well known on the Continent by the name of the Leſkean Muſeum, and has been mentioned in ſeveral publications, in terms of the higheſt approbation, was purchaſed for the Dublin Society in the year 1792, for £1250. by that excellent Mineralogiſt Richard Kirwan, Eſq. under whoſe inſpection the collection is to be arranged.

When theſe arrangements are completed, which may be expected to take place before the end of the year 1794, we may venture to ſay, that the general Eſtabliſhment will not only exceed any Inſtitution of a ſimilar nature which has hitherto been carried into execution, but will nearly equal an *Ideal Scheme* formed upon the like plan by the patriotic Sully, and offered by that judicious and enterpriſing Miniſter to the conſideration of Henry the Fourth of France, as worthy of being adopted by that great Monarch, ſo indefatigable in every purſuit, which could promote the welfare and happineſs of his People.

THE END.

BRITISH
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